FULL COMMITTEE FIELD HEARING ON THE IMPACT OF THE 2006-2007 DROUGHT ON GEORGIA'S ECONOMY

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FULL COMMITTEE FIELD HEARING ON THE IMPACT OF THE 2006-2007 DROUGHT ON GEORGIA'S ECONOMY

Tuesday, March 25, 2008

U.S. HOUSE OF REPRESENTATIVES,
COMMITTEE ON SMALL BUSINESS,
Washington, DC.

The Committee met, pursuant to call, at 12:30 p.m., in the Callaway Center for International Business Development, West Georgia Technical College, 220 Fort Drive, LaGrange, Georgia, Hon. Hank Johnson presiding.

Present: Representatives Johnson and Westmoreland.

OPENING STATEMENT OF CHAIRMAN JOHNSON

Mr. JOHNSON. Ladies and gentlemen, I am going to call this hearing to order. And I want to first take the opportunity to apologize to all of you all for being late here. I know that you all have busy schedules and I know that you all are here to hear from these fine panelists that we have. I look forward to hearing their comments. And so I want to also extend a thanks to Congressman Westmoreland and his staff for being very dutiful about bringing this panel to you today. My office has been pleased to work with his office to make this thing happen.

Just a note about process. Since the Democrats are in control of Congress, that is why it had to be a Democratic Representative who would be here to I guess lead this meeting. I am a first term Congressman. Congressman Westmoreland has been on the Small Business Committee for many years and so it is a little odd. But this is the process. And so with that process in mind, that is why we have the setup that we have today.

And so the fact that I was late, I am going to not continue with the remarks, the opening statements that I had prepared, but I do want to turn this meeting over to Congressman Westmoreland for his opening remarks and then we will hear from the panelists and any questions that we have, we will ask of these panelists. And then we will proceed to the panelists on the second panel and the third panel as well.

So thank you for your attention and your attendance and I will now turn it to Congressman Westmoreland for his opening statement.

OPENING STATEMENT OF MR. WESTMORELAND

Mr. WESTMORELAND. Thank you, Mr. Chairman. You can certainly see how important the highway funds are to west Georgia now.

[Laughter.]

Mr. WESTMORELAND. Thank you, Mr. Chairman, for holding this hearing today and I would also like to thank all the witnesses for their participation. I know all of you have very busy schedules and feel honored that you would take the time to provide this Committee with your testimony. And I am sure that today's testimony will prove to be very helpful.

Georgia's water crisis has been caused by a severe drought, by the U.S. Corps of Engineers' mismanagement of river basins based on outdated science and population figures, and by water wars among Georgia, Alabama and Florida that have been ongoing for a number of years. The Corps, under an agreement reached in the 1980s with U.S. Fish & Wildlife Service, the State of Georgia and downstream users release 5000 cubic feet per second or CFs of water, up to 3.2 billion gallons a day, downstream into the states of Alabama and Florida. The figure was based on hydroelectric power plants' needs as well as concern for endangered species in the river. But most importantly, this flow of water was based on a consistent schedule of rain.

I, along with the entire Georgia delegation, have been very engaged in this serious ongoing issue. To this end, we introduced legislation in the U.S. House of Representatives, H.R. 3847, and in the U.S. Senate, S. 2165, to alleviate the current water crisis by allowing states suffering from droughts to be exempt temporarily from the Endangered Species Act, which in Georgia is threatening our low water supply by taking away large amounts of water from north and middle Georgia and sending it downstream to protect mussels and sturgeon.

Specifically, the Corps is managing releases out of Lake Lanier and Lake Allatoona in a manner that is in the best interest of endangered mussels in Alabama and endangered sturgeon in Florida, instead of the best interests of the people of Georgia. Georgians rely on this water, not only for drinking, cooking, bathing and cleaning, but also for recreational purposes that creates jobs and grows the local economy. Furthermore, we have requested and the Corps has agreed to update the 20-year old water control plan for the Alabama Coosa-Tallapoosa and the Apalachicola-Chattahoochee-Flint river basins that runs throughout Georgia, Alabama and Florida.

The current releases of water from these two basins are based on science and population figures that do not reflect the tremendous growth and modern day needs of Georgia. We have also requested that the Corps start from scratch when compiling the plan manual for the ACF Basin and not use the Corps current flawed interim operating plan as a baseline for the new manual. It is imperative that we update the water control plan to reflect 21st century water demand and uses in Georgia, Alabama and Florida and to bring about a resolution among the states to see that the threat to our Georgia lakes is stopped.

Recently, it was announced that there are changes planned regarding the Corps' operation in Georgia that will allow us to put aside additional water during the unprecedented drought. The Corps, in consultation with Fish & Wildlife, announced that they had drafted an interim operating plan that reduced the minimum flow from Woodruff Dam at Lake Seminole to 4750 cubic feet, a five percent reduction. Subsequently, another ramp down to 4500 CFs will be authorized, a total of 10 percent reduction. Unless the federal reservoirs recover drastically due to improved conditions, these lower water flow levels will be implemented through June 1, 2008.

The plan would also allow reservoirs such as West Point Lake to store additional in-flows above 5000 CFs. The Corps' releases are designed to provide enough water flow for human use and to sustain these endangered species. I believe this is a small step in the right direction to deal with a problem that immediately confronts us.

Mr. Chairman, in some way this drought has affected everyone assembled here today and I look forward to hearing from our distinguished panels and to continue working with you and the rest of the Georgia delegation to address this important issue.

And Mr. Chairman, with that, I look forward to hearing the testimony of the panelists.

Mr. JOHNSON. Thank you, Congressman Westmoreland.

We will now move to the testimony from panel one. Each witness will have five minutes for their remarks and their entire statements will be entered into the record.

Our first witness is Mr. Dick Timmerberg of LaGrange, Georgia.

STATEMENT OF MR. DICK TIMMERBERG, EXECUTIVE DIRECTOR, WEST POINT LAKE COALITION

Mr. TIMMERBERG. Good afternoon, thank you, sir.

My name is Dick Timmerberg and I am the Executive Director of the West Point Lake Coalition. I want to thank the House Committee on Small Business for the opportunity to testify here today regarding how the economy of west Georgia in general and small business in particular have been unfairly devastated by the drought of 2006-2007 and the rigid management practices of the Corps of Engineers and U.S. Fish & Wildlife Service.

In the fall of 2006, $268,000 was contributed by businesses and individuals in west Georgia and east Alabama to study West Point Lake economically and environmentally. This fundraising success strongly demonstrates this area's commitment to West Point Lake, its concerns for the future of the lake and its recognition of the economic value and importance of the lake.

The firm of Basile, Baumann, Prost, Cole & Associates, a nationally recognized firm in the area of economic impacts and recreation, completed an economic study in December of 2007 and I am submitting a copy of this study as part of my testimony here today.

Three alternative economic analyses were prepared. Full pool is 635. Alternative one was low water levels at or below 630; alter-

native two, higher water levels in the range of 630 to 633 and alternative three was optimal water levels in the range of 633 to 635.

The projected annual economic impact and value of West Point Lake at the above three alternatives, I have listed below.

At alternative one, the lake is worth approximately $154 million a year to the local economy.

Alternative two jumps up to almost $420 million, an increase of almost $266 million.

And alternative three, optimal, it jumps to $710 million, which is a plus of almost $556 million versus alternative one.

The lake was specifically authorized by Congress for five distinct purposes—recreation, sport fishing, wildlife development, hydropower, flood control and navigation. Corps of Engineers documents state that the initial recreation impact level on West Point Lake is 632.5. Now, note that at no time in 2006, 2007 and the first two months of 2008, a total of 26 consecutive months, has the average monthly lake level at West Point Lake met or exceeded that initial recreation impact level. Speaking candidly, the Corps has not been held accountable for their management of West Point Lake as authorized by Congress. And their track record over the past 26 months, which has caused severe economic consequences, demonstrates a disregard for recreation.

The lost economic impact from West Point Lake from January 2006 through December of 2007 ranges between $800 million and $1.1 billion. Low lake levels severely affected visitation to the lake. For example, at an extremely conservative estimate of $100 spent per visitation, our community lost $10 million in 2007 versus 2006 due to the decline in visitation alone. At the risk of stating the obvious, visitation to West Point Lake and tournaments decline significantly when there is not a dependable lake level, when the lake is unsafe, when people lose access to parks and swimming areas and when people lose access to the water itself. Equally obvious, when visitation declines significantly, the economic value of West Point Lake drops drastically and the negative economic impact increases substantially.

Let me turn to a few specific examples of the devastating impact on small business. In the interest of time, I am just going to tell you that in businesses one to three—and these are all lake-related businesses—their revenues were down from a low of 30 percent to a high of 75 percent, with one individual on boat sales down 100 percent because he had to give up his boat distributorship.

Business four, during the six months between September 2007 and February 2008, revenues were down $96,000 versus the same period last year. Had their average monthly growth rate of 10 to 20 percent prior to the drought continued, lost revenues would have exceeded well over $100,000. To try to minimize the losses, they increased advertising by $15,000, repairs to damaged stock ran another $12,000, and $3000 in dredging expense was incurred in an attempt to keep the ramp open. Combined impact of $126,000, and this does not include the loss of three bass tournaments, approximately 550 boats or 1100 fishermen and women, plus the loss of at least 100 boats in their year end championship tournament due to the low lake levels and the severely limited access.

Business five, bait and tackle sales were down a minimum of 48 percent. This is a quote, "Every credit card I have is maxed out and every day I am losing money. I had to take an outside job to support my family and tread water long enough to hopefully somehow hold onto my store."

Business number six, and I quote, "When I bought this store five years ago, it was a dream come true, I finally owned my own business. The first three years were successful as we improved the building and expanded both our products and inventory. Over the past 24 months, due to the drought and the low water level, sales have declined an average of 20,000 per month and we lost our gas contract. In an effort to stop the bleeding, we added a kitchen and began selling biscuits and other breakfast items. Finally, I had to seek other full time employment and leave my wife and daughter alone in the store. The store is currently for sale. If it does not sell, we will lose it anyway."

So what do the above businesses have in common? All of them were successful until the drought and the ill-conceived interim operating plan hit, and low, unacceptable water levels dragged on for over two years. The small business men and women who are the backbone of our country are fast becoming the endangered species and no one is protecting them.

While West Point Lake was drained, water was sent downstream to protect endangered mussels. We have quantified the economic impact to our community and to small business, but I have yet to see the economic benefit or value of the endangered mussels. Assuming for the moment that the mussel species are viable long term—and that is a huge question—why was action not taken to relocate the mussels to a hatchery or to re-establish them in a like stream or river? In fact, there never was a proactive solution. The response from the Corps and Fish & Wildlife was simply releasing water far in excess of what mother nature would have provided and with no consideration for the dire consequences to the small business man and woman. Apparently the use of common sense is also an endangered species.

The federal reservoirs on the ACF—

[Applause.]

Mr. TIMMERBERG. The federal reservoirs on the ACF system and the system itself should be managed in a fair and proportionately equal manner. The federal reservoirs should be managed for their authorized purposes, they should not be managed for unauthorized purposes. We support growth and want to see a strong and vibrant Atlanta metro area as the main economic engine for the state of Georgia. That said, that growth must be intelligent growth which is well-planned and recognizes the finite limited water supply in the Chattahoochee River and acknowledges the economic needs and the right to growth for downstream communities as well.

What we will never support is the transfer of economic wealth from one community to another using water as currency.

We respectfully ask that Congress hold the Corps of Engineers accountable to manage West Point Lake as it was authorized, so that the lake's economic benefit can be realized. We ask Congress to uphold their promises made to this community when West Point Lake was planned. We ask that the new interim operating plan re-

flect and prioritize the authorized purposes versus the unauthorized needs, while recognizing the devastating economic harm done previously and minimizing the negative economic impacts in the future.

Thanks once again for conducting this hearing in LaGrange and for giving me the opportunity to testify.

[Applause.]

[The prepared statement of Mr. Timmerberg may be found in the Appendix on page 36.]

Mr. JOHNSON. Thank you, Mr. Timmerberg.

And ladies and gentlemen, I did not properly introduce Mr. Timmerberg, he is the Executive Director of the West Point Lake Coalition, a board member of the Middle Chattahoochee Water Coalition, a member of the West Point Lake Advisory Council, and at the request of the Georgia Environmental Protection Division, he has served for two years on the Chattahoochee Basin Advisory Committee in Phase 1 of the Georgia Statewide Water Planning Process.

So thank you for your testimony today, sir.

Next, we will have Ms. Mary Kay Woodworth, who is the Executive Director of the Metropolitan Atlanta Landscape and Turf Association. Ms. Woodworth.

STATEMENT OF MS. MARY KAY WOODWORTH, EXECUTIVE DIRECTOR, METRO ATLANTA LANDSCAPE AND TURF ASSOCIATION

Ms. WOODWORTH. Thank you, Representative Johnson.

Mr. JOHNSON. You will have five minutes for your statement and your written statement will be included in the record.

Ms. WOODWORTH. Thank you very much.

Yes, I am with the Metro Atlanta Landscape and Turf Association and I do not want you to think Atlanta is a bad word down here, but more importantly I should tell you I am President of the Georgia Urban Agriculture Council.

Georgia's urban agriculture industry represents one of the largest and most successful industries in Georgia, with more than $8 billion in annual sales, 7000 companies and more than 80,000 employees throughout the state. Urban agriculture is defined as all non-traditional agriculture and is the second largest industry in the state of Georgia, second to poultry.

The industry includes retail garden centers, floriculturists, turf grass and sod growers, the nursery and horticulture industry, landscape architects, landscape installation and maintenance businesses, irrigation contractors, green wholesalers, florists and golf courses and their related businesses.

Georgia's EPD Drought Management Plan uses outdoor watering restrictions as the sole solution to address the drought conditions that have impacted Georgia. While commercial exemptions are contained in the plan, these exemptions can be further restricted locally. This action by local utilities and governments has had the ef-

fect of imposing severe restrictions on businesses that rely on water in their operations.

And in this case, in the last year and a half, these severe conditions were primarily imposed on a single industry—landscaping and horticulture. This is a problem that did not have to happen. This was not because of the drought. The problems we have had in our industry are because of the water restrictions that were resulting from the drought.

The EPD Drought Management Plan rules and local government's heightened restrictions were exacerbated by the U.S. Army Corps of Engineers' increased downstream releases from Lake Lanier in late summer of 2007. The increased releases resulted in Governor Perdue's mandate to water providers to release withdrawals by 10 percent. This mandate, along with EPD's Level 4 Drought Declaration for 61 counties on September 28, 2007 had an immediate and dramatic devastating impact on the industry statewide.

Due to the State's actions and the additional whittling away of the exemptions by the local municipalities there was little to no fall planting season in Georgia and the financial impact was felt immediately.

According to an industry and UGA survey that is dated February 2008, there have been more than 35,000 layoffs statewide. Between June through December 2007, losses of over $262 million per month are directly attributed to drought and the ensuing water restrictions. And at this rate, an annual loss of $3.2 billion is predicted. Several prominent businesses, including Pike Family Nursery, have filed for bankruptcy, have been put to auction, closed temporarily or permanently or are reviewing their options. Most of this could have been avoided had the state developed a drought management plan that did not place the entire burden of water conservation and outdoor watering and usage on conservation alone.

Georgia's urban agriculture industry will continue to lose profits and employees if drought conditions remain over the state this year, according to the UGA survey. UGA's Dr. Ellen Bauske reports that "In an industry with a median income of $800,000 per company, most companies won't be able to sustain losses of that magnitude. We can expect more news of bankruptcies, business failures and liquidation of company assets if the situation continues."

Based on the survey, Bauske and her colleagues project devastating losses in the next few months and coming year. The calculated loss of $260 million per month can be contributed directly to the drought and the water restrictions that were imposed on the industry. If the current drought conditions continue, the report is that an annual loss of $3.2 billion will occur and an additional 30,000 employees will be losing their jobs.

The frustrating part of this for most of us in the industry, and just as you reported, these are small businesses. These are not national or international companies that can absorb the losses, they are mom and pop companies that have been in business for years. It is just frustrating and sad to see the companies, good companies, that have gone out of business through no fault of their own.

Governor Perdue has stated that as outdoor water use is inconsequential to the state's water picture. Dr. Carol Couch, the EPD Director, agrees: "We are not here because we consumed our way into this drought, as some would suggest."

Watering bans are little more than an attempt by water authorities to divert attention from the failure to adequately plan for inevitable drought events. Droughts should never be a surprise to water planners. They are a natural element in environmental life cycles and should be factored into all water management plans. If water is managed properly, a water crisis should be extremely rare.

Using water restrictions and conservation alone ignore the root of the problem, rather than address the problem with a comprehensive plan that tackles the issues of water supply and use. EPD and the authority that is given to local governments to ban outdoor water use create the impression that they are effectively dealing with the larger issue. For most water authorities, this is the most visible action they can take in the public eye to communicate a water crisis, by cutting off the low hanging fruit, the visible water that is used outside.

The urbanization and suburbanization of Georgia has been enormous, providing jobs, economic opportunities and stability for millions of Georgians, but it has also brought problems. Urbanization decreases water quality and increases use. About one-half of the land cleared or disturbed for development is covered by impervious surfaces such as roads, roofs and parking lots and that is a contributor to the current crisis. Urban agriculture is the best method for addressing these problems, while development continues.

Healthy and properly maintained landscapes are critical to water management and storage in an urban environment. Lawns, ground covers, vegetation and even hardscapes are crucial to managing ground water. Urban agriculture is one of the few industries in Georgia that mitigates the environmental impact of development and creates a sustainable quality of life for people, wildlife and natural systems.

When drought conditions persisted last spring, Georgians responded by conserving water. We were told that by saving water, we would be saving money as well. Recent news articles in the AJC report that local water authorities must not increase fees to make up for revenue lost from reductions in water sold to their customers during this drought period.

The drought has cost Georgians billions of dollars in economic loss and now water conservation measures will cost us millions more because local water professionals failed to plan.

Only in a government business plan can you have a decline in revenues and maintain or grow your overhead while not going out of business. These locally run bureaucracies now insult the citizens of Georgia by raising their fees.

The urban agriculture industry is committed to being an active partner in Georgia through its crisis. We will continue to work with the state and local water authorities as they search for solutions to developing problems. But we must insist that the state address the lack of water infrastructure, including water storage needs, so it will not become necessary to address a future water crisis on the

back of our industry. We hope that we have your support in our mission.

Thank you again.

[Applause.]

[The prepared statement of Ms. Woodworth may be found in the Appendix on page 42.]

Mr. JOHNSON. Thank you, Ms. Woodworth.

And ladies and gentlemen, I also failed to properly introduce myself. I am Congressman Hank Johnson, I represent Georgia's Fourth District, which is DeKalb County, about 80 percent of Rockdale County. Congressman Westmoreland represents the other 20 percent and also represents part of Gwinnett County.

So I want to at this time turn it over to Congressman Westmoreland, who will introduce our next panelist.

Mr. WESTMORELAND. Thank you, Mr. Chairman.

Our next panelist is Robbie Nichols. He and his wife Lisa live on West Point Lake. Robbie's been in the banking business, the real estate business and now he is in the marina business. He is the owner of Southern Harbor Marina where he and his wife both live. He has been involved in development around the lake and he has lived the real experience of these lake levels going up and down.

So, Mr. Nichols, it is a pleasure that you are here and we look forward to hearing your testimony.

STATEMENT OF MR. ROBBIE NICHOLS, SOUTHERN HARBOR MARINA

Mr. NICHOLS. Thank you. Thank you for the opportunity to speak to you on behalf of the marina and small business owners in west Georgia and east Alabama.

Several of the purposes of West Point Lake authorized by Congress are sport fishing, wildlife development and public recreation. In my opinion, none of these purposes have been fulfilled. The water levels must be maintained in the lake so the public can use it safely. Let us not forget that Corps funding is based upon, to some degree, traffic count and visitation.

I would like to thank those of you in Congress that have supported H.R. 4304, which allows our Corps of Engineers to retain revenues generated by public parks and campgrounds. However, no amount of public facilities can truly be justified when water levels have reached unsafe conditions for the boating public.

From my own experience at the marina, revenues from January through July were 20 percent ahead of the previous year. Revenues for August were slightly lower, but I do not think anyone quite anticipated that Labor Day would be the end of our season. September through December 2007 store sales were 50 percent off, lodging revenues 35 percent, boat rentals 60 percent, and damages to those boats exceeded $5000. Our wet slip revenues were down only three percent due to the fact that I had a dozen boats stuck in the mud and many others that would have left if not for inaccessible ramps. As the water level decreased and dock flotation settled into the mud, the marina spent over $80,000 in dock extensions,

electrical connections and additions to our sewer pumpout facilities. These were all out-of-pocket expenses.

Another impact felt this fall was low tournament turnout and the cancellation of several large fishing tournaments, resulting in a negative economic impact to our community of well over a million dollars.

The Governor of Georgia has announced a new "Go Fish Georgia" program. The program is intended to promote fishing and tourism and to bring people in from all over the southeast. The problem with "Go Fish Georgia" is that it just may be a card game we will be playing, the deck stacked against us by outdated operating plans and lake levels we cannot depend on.

You have asked me to speak on my perspective and those of my business associates as to the economic impact of the drought. Well, I am here to say that it is the opinion of many that the drought is being used as an excuse for ineffective and outdated water control plans.

[Applause.]

Mr. NICHOLS. The West Point Lake Advisory Committee has been addressing the economic impact of lake fluctuations in West Point Lake, including the predicted drought conditions that we are now experiencing. This information was conveyed to state and federal agencies over a year ago. It was not until Atlanta was threatened with the possibility of running out of drinking water did our concerns become front page news. The Governor only then mandated a 10 percent reduction on all water use across the state. For those of us who live outside the doughnut, we do not have a problem with reducing water usage and trying to conserve more. But what we do not hear about are the restrictions in development and growth in Atlanta. So in a simple man's math, it appears that our 10 percent reduction is just allowing the growth in Atlanta to continue and not necessarily doing a whole lot to put the water back in our lake. Unlike Atlanta, all we have asked for is shared sacrifice.

As to the growth, the state of Georgia has invested $500 million to bring an automobile plant to Georgia. Besides financial incentives, companies today value the quality of life offered to its employees. West Point Lake is a major factor in those decisions. In fact, one Kia executive new to our area asked "Is your lake broke?" And my only response was, "No, sir, our lake is not broke, but the system that controls it is."

[Applause.]

As for the system I refer to, I am not sure who is in charge. The Corps of Engineers points the finger at Fish & Wildlife and they point the finger back. It appears to me what we have done is pass so many laws and created so many bureaucracies that common sense has become extinct. The system needs to be simplified, agencies need to work together so that there is accountability within the decision-making process. There needs to be flexibility to adapt to ever-changing conditions.

In closing, I do not mind competition. I compete with the Wal-Marts, Bass Pro Shops and others who by their sheer size can sell for less than I can buy most goods for. The advantage I have is you cannot get there by boat. Do not take that away from us.

[Applause.]
[The prepared statement of Mr. Nichols may be found in the Appendix on page 45.]

Mr. JOHNSON. Now that I have got the gavel, I can swing it a little bit when you all clap a little bit too much.

But listen, I want to thank this panel for your time, I want to thank you for your testimony. The Committee will likely follow up with written questions for the record. And we will now call upon our second panel. Thank you very much.

[Applause.]

Mr. JOHNSON. And while the second panel is coming forward, I will say that Congressman Westmoreland's staff has been working on this Small Business Committee field hearing for the last few months and it has been my pleasure to work with your staff in making this happen. And you also promised me that you would show me some great fishing holes when I came down here, but you are not dressed for that today. So we will have to make it a different time. And I look forward to coming back and learning more about this area of our state.

Next, we have on our panel three individuals. The first is Mr. Joe Maltese. He is an assistant to the City Manager of LaGrange, Georgia and at this time, I will advise all of you that you have five minutes for your opening statements and your entire written statements will be entered into the record.

So at this time, I will ask Mr. Maltese to begin his testimony.

STATEMENT OF MR. JOE MALTESE, ASSISTANT TO CITY MANAGER, LAGRANGE, GEORGIA

Mr. MALTESE. Thank you. Allow me to begin by thanking the Committee, its members and the Congressional staff that worked so hard to arrange for this hearing in LaGrange. It is an honor for this community to have this body here to listen to our concerns.

Let me also note we have a great appreciation for those that serve in the United States Corps of Engineers. While we have disagreements with them from time to time over operations along the river, you must always know that we are proud of their service to this nation. We are also honored to have U.S. Fish & Wildlife representatives here today to participate in these hearings. However, we do not agree with or appreciate these agencies' approach to managing the river system, especially West Point Lake.

In 1962, the United States Congress authorized the Corps of Engineers to build a reservoir above West Point, Georgia for five purposes—sport fishing and wildlife development, flood control, hydropower, general recreation and navigation. As the lake was built, the Corps immediately established and has historically utilized a system of very aggressive rule curves and action zones to guide their management of water elevations at West Point Lake. In doing so, the Corps set aside massive amounts of storage and attributed that space for other purposes and demands elsewhere on the river. This unused capacity left the lake empty for much of the year. Yes,

we agree the Corps must provide for essential flood control, but they failed to utilize the full capabilities of the lake.

Over the past two years, we have watched as the Corps systematically drained the entire basin during the onslaught of the worse drought we have ever seen. While there was a drought and the lakes would have been at somewhat lower levels, we believe West Point Lake would have remained at far more usable elevations with reasonable levels had the Corps not engaged in utilizing the damaging IOP to guide its operations.

In the springtime when West Point Lake needed a recharge with nature's rains, the Corps sent vast amounts of water southward downstream to the Gulf of Mexico, with U.S. Fish & Wildlife Service's blessing, and drained the lake so that sturgeon could spawn on the Apalachicola River at a time when the lakes desperately needed to refill. Remember, the sturgeon and mussel existed long before there were any federal lakes on the Chattahoochee and to presume they cannot exist after 50 years of a regulated system is, at best, highly questionable.

The drought worsened, but the Corps continued to drain first Lake Walter F. George, then West Point Lake and finally Lake Lanier throughout the spring and summer. The Corps says they have always had a flow of 5000 cubic feet per second or greater from Jim Woodruff Lock and Dam onto the Apalachicola River. And I think we all know that mother nature does not offer guarantees in writing with a five followed by three zeroes at any given point on the river, especially when totally inflow into the ACF basin above that point is almost half that amount. So the Corps made up their guaranteed flows from federal lakes that were not designed or authorized to provide flows for thermo electric power plants or sturgeon or mussels.

To make matters worse, instead of shutting the valve off immediately after meeting its flow demand for the Apalachicola, the Corps with Fish & Wildlife blessing again, extended the drawdown from lakes using a gradual ramp down rate that often lasted days. This was to protect mussels from being stranded on the banks. It would seem far more logical to turn the faucet off when you are done rather than draining the federal lakes. But the so-called IOP, interim operating plan, provided for a concept that we would scold our children for if we saw them using this practice at home. In the meantime, the three northern federal lakes continued to drain and disappeared while the drought worsened.

Our frustration as a community is that the authorized uses for West Point Lake that would yield the most economic benefit and were associated with the highest level of expectation in our area, based on commitments made by the government, seem largely ignored. We see a Corps of Engineers overly concerned about flow needs for thermo electric power generation for Plant Scholz and Plant Farley, industrial needs and waste assimilation flows and fish and wildlife to our south on the river. We were never told this lake would be taken away and used for those needs. All we knew was that West Point Lake and Lake Lanier disappeared and Southern Company's Georgia Power lakes on the river within ten miles of West Point remained full all summer long.

When West Point Lake was filled and began operations in 1974, the citizens that rely on West Point Lake took the federal government at its word. Remember, West Point Lake was promised to the community as a recreational lake, yet the Corps decided to make West Point what they term "the workhorse of the basin". Somehow, this lake was taken away from us. We think we know where the water is going and who is getting it. We beg that our Congress intervene and assure that West Point Lake is returned to the hundreds of thousands of citizens and businesses in the growing west Georgia and east Alabama area and that a promise made for a recreational lake to the citizens of this area is fulfilled. Please see the Corps stops using West Point as a workhorse lake and that those responsible for the management of this lake return it to its authorized uses.

Thank you.

[The prepared statement of Mr. Maltese may be found in the Appendix on page 51.]

[Applause.]

Mr. JOHNSON. Thank you.

Our next witness is Ms. Pat Stevens, who is the Chief of the Environmental Planning Division of the Atlanta Regional Commission. Ms. Stevens.

STATEMENT OF MS. PAT STEVENS

Ms. STEVENS. Thank you, Congressman Johnson.

I want to highlight four points in my testimony.

One is that I think there is a major misunderstanding about the capabilities of headwater lakes in major river basins like this.

Two is that the Corps obviously clearly exacerbated the impacts of our recent drought.

Three, and my focus primarily is on the Lake Lanier area, the Atlanta area; Lake Lanier today is at it lowest point for any March 25 that it has been at for the history of that lake since it started normal operations. And we are very concerned that if the past operations of the last two years resume this summer, we will be not only back where we were last summer, but it will be much, much worse. So we are very concerned about that.

And fourth, we do want to voice support for the recent announcement by the Corps of Engineers to update their water control plan.

So let me talk a little bit about the misunderstanding when it comes to headwater lakes. You can see by the map that is up there, the land area above Lake Lanier is only five percent of the entire land area in the Apalachicola-Chattahoochee-Flint Basin. And what that means is—it only controls, even though it is a large lake, it only controls nine percent of the flow in the whole basin.

West Point Lake is similarly situated. It only controls 15 percent of the land area that drains into it. This means that most of the water that falls on the ground and flows to the state of Florida, cannot be controlled by these lakes. So when you try to take the water that is in these lakes, even though they are large lakes, there is not much water flowing through them. If you try to use these lakes to make up for a large river, 400 miles south, you can

release that water for a short time but then you will drain the lakes and everybody will be out of water. We were on a path last year to do that. As the lower reservoirs were drained, the major releases for the Apalachicola River were from Lake Lanier. The flow at Lake Lanier is usually about 2000 cubic feet per second, the flow in the Apalachicola is somewhere in the vicinity of 20,000 cubic feet per second. So 60 to 80 percent of all the water that was being delivered to the state of Florida was coming out of a lake that only controls nine percent of the flow. And you cannot do that for very long. And that is a big problem.

Even though we have had low river levels, the Corps of Engineers' operations have exacerbated the impact of the drought and we talked about that, the interim operations plan was developed under threat by the state of Florida against the Corps of Engineers over endangered species. It was developed without good science. During May through November 2007, 100 percent of all the water that flowed through the reservoirs in Georgia, was passed on to the state of Florida and 75 percent of all the water stored in these reservoirs was passed on to the state of Florida. In the face of drought, all that means is you are on a path to emptying the reservoirs. Lake Lanier, there are three million people that depend on that lake for water supply. We have heard a lot about the jobs that depend on West Point Lake. And so we need to make sure that does not happen again.

The Corps recognized the danger that was coming. In November of 2007, they changed their operations, they adopted emergency drought operations and it really has helped the lower lakes recover, but Lake Lanier has not recovered. So our main concern is we cannot go back to that way of operating. The trigger that they have got in the emergency drought operations plan is for it to be withdrawn June 1. Without the recovery of Lake Lanier, if they go back to the old way of operating, they can drain the lower lakes again and then we will be so much worse off. So we ask that that not happen.

Economic impacts. The level of Lake Lanier is related to economic impacts in the metro Atlanta area. Recreation is a big business around Lake Lanier. There are similar impacts up there that you have heard about at West Point Lake. The water systems have had to cut back their water usage. Just the major ones have $50 million in losses that they are going to have to recover and raise rates because of. And we heard about the impact on the landscape and garden industry. That is a huge industry in metro Atlanta. There have been thousands and thousands of people laid off because of that.

And finally, I would just like to say, we are ready to move forward. We support the Corps updating their water control plan. The group of water providers in the metro area have hired consultants to give other options for operating these systems. We think there are better ways to operate.

We ask that the Corps do a three step plan. One is to continue these emergency drought operations until Lake Lanier recovers. Lake Lanier is in serious decline right now and so we are very concerned about that.

And to not ever go back to the interim operations plan. Two, come up with a new temporary operations plan until the water control plans can be updated, because that will take years. We just cannot go back to the way the interim operations plan was. And so that is what we are asking and we stand ready to help with that effort in any way we can.

[The prepared statement of Ms. Stevens may be found in the Appendix on page 126.

Mr. JOHNSON. Thank you, Ms. Stevens.

[Applause.]

Mr. JOHNSON. Our next witness is Mr. Mark Crisp, who is managing consultant with C.H. Guernsey & Company, which is an engineering consultant firm engaged by the City of LaGrange and by the West Point Lake Coalition.

Mr. Crisp.

STATEMENT OF MR. MARK CRISP, PROFESSIONAL ENGINEER, C.H. GUERNSEY & COMPANY

Mr. CRISP. Thank you. Good afternoon, Mr. Chairman, Congressman Westmoreland.

For many years, the Apalachicola-Chattahoochee-Flint River Basin has operated with minimal conflicts and relatively good availability of water through natural rainfall. However, during the last 20 to 25 years, our climatology has seen a significant change. For the greater part of the 20th century, our climatology experienced robust and extensive wet seasons during the months of December through April with additional contributions of rainfall during summer thunderstorms that occurred almost daily across much of the southeast, including Georgia. However, starting in the early 1980s and continuing today, our climatology has shifted to a more arid condition. A critical and significant factor in the Corps' operation of West Point Lake has been the extremely negative effect caused by the U.S. Fish & Wildlife Service's biological opinion and the Corps' interim operation plan initiated in the ACF Basin during the spring of 2006, during this drought period.

During the time period from 1980 through the present, the ACF has experienced three major droughts. The drought of 1981, the droughts of 1986 through 1988 and the current drought that actually started in 1998 and continues today. Many climatologists and meteorologists claim that the current drought is a separate cycle from the one initiated in 1998. However, only a cursory level examination of rainfall data for this region for the period 1996 to 2007 clearly indicates that we never escaped the vise of the drought started in 1998.

At the same time as the onset of our current more arid weather cycle, the southeast and particularly metro Atlanta region, was experiencing unprecedented growth in population. The conflicts started to arise between Congressionally authorized purposes of the projects and those uses that were seen as beneficial. These conflicts generated the now infamous water wars that have been going on

for the better part of two decades through at least two administrations in the affected state houses and continues today with little hope at the end of the tunnel.

As early as 2002, the U.S. Fish & Wildlife Service and the Corps of Engineers initiated informal discussions concerning several species of freshwater mussels and the Gulf sturgeon. Fish & Wildlife was in the process of declaring some of the mussels and the Gulf sturgeon as endangered, per the Endangered Species Act. The entrance of U.S. Fish & Wildlife and the ESA, Endangered Species Act, brought a whole new dynamic to the escalating water wars. With little to no well-defined objectives or performance matrices, the ESA has allowed Fish & Wildlife to dictate to the Corps how much water must be released downstream of the Jim Woodruff Dam during any seasonal period with little regard for upstream users.

At this point, we now have major droughts, escalating water demands in the upper region of the ACF, competing use issues for reservoir storage other than Congressional authorized uses, three states competing for a share of the pie and Fish & Wildlife playing the nuclear option in the lower part of the basin. Unfortunately, West Point Lake sits squarely in the middle.

Due to the political pressure to maintain reservoir elevations and support water supply at Lake Lanier, which is operated more as a backstop by the Corps to protect the system. Only if everything else fails will Lanier be looked at as a resource to meet downstream needs, even with the conservation storage that exceeds West Point Lake by nearly a million acre feet, nearly three and a half times what Lake West Point has in it. With West Point Lake in its location, it is an easy target for the Corps to use, as recently referred to by the Corps as the workhorse of the system. However, in this case, this workhorse is being turned into the mistreated sway-back nag due to over-use, rapid and repeated fluctuations in elevation and excessive drawdowns to support functions Congress never anticipated nor studies ever supported.

The nuclear option played by the U.S. Fish & Wildlife that initiated the development of the biological opinion and the interim operating plan has created havoc with regards to the operation of West Point Lake during 2006 and 2007. Inasmuch as the plan called for the release of huge volumes of water into the Apalachicola River from Jim Woodruff project, the environmental assessment performed by the Corps did not effectively investigate the impacts it would have on upstream storage projects, particularly West Point Lake.

The Corps and Fish & Wildlife's zeal to accomplish some change during a period of extreme drought and intense negotiations between states typifies the current philosophy employed in the federal negotiations and failed compact discussions, let us find an answer and then we will develop the science to justify the answer. Unfortunately for the Corps and Fish & Wildlife, this drought turned into the drought of record and the extreme demands placed on West Point Lake drained it to its lowest elevation on record. So low that the Corps made the decision that it could not afford to draw West Point any further. Therefore, they had to turn to Lake Lanier in order to meet flow requirements of the IOP in the Apa-

lachicola River. This action subsequently drained Lake Lanier to an all time record low that now appears to be unrecoverable this spring. All for the sturgeons and mussels that to date no one can tell you quantitatively that the massive releases of 2006 and 2007 has done any good to restore habitat or population.

The Corps has claimed the IOP only accounted for 0.5 feet of the drawdown of West Point Lake during 2007. However, if you compare the operational results, such as reservoir elevations and releases, during the drought of 2007 and that of the drought period in 2000, it is easy to see that the Corps held the reservoir elevations much higher during previous droughts while meeting the downstream demands.

The major change between that drought and this one was only four inches of rainfall less during this whole annual period of 2007 and the implementation of the IOP. Therefore, the IOP did cause significant worse conditions than the 0.5 foot drawdown at West Point as alleged by the Corps. If the Corps had taken a more aggressive and conservative approach to water management, knowing we were in the midst of a multi-year drought of significance, West Point could have been sustained at levels well above 630 well into the summer of 2007. Lake Lanier could have been held higher and releases into the Apalachicola River downstream of Woodruff could have been sustained at levels greater than those that were naturally produced, but much less than the grossly exaggerated flows required by the IOP.

Had the Corps been manning the rudder, tracking rainfall, tracking climactic conditions and reservoir response, the devastation caused by an ill-conceived plan such as the IOP would not have been exacerbated by the drought. Entering the summer of 2006, West Point Lake's elevation was 631.3, nearly five feet below the summer pool. This equates to over one foot below the recreation impact level, where opportunities for recreation are severely impacted. I must remind you that recreation at West Point Lake was specifically and deliberately authorized by Congress and intended to be a significant part of the overall operational plan, not just an ancillary benefit to be available only when the Corps found it convenient.

Beginning in May of 2007, West Point started a precipitous fall that did not end until the lake reached a near historic low in early winter at an elevation of 621.75. However, as also can be seen, the reservoirs at Lanier and West Point were managed very deliberately between two droughts. During 2007, Lanier was held much higher into the winter than in the corresponding 2000 drought, while West Point Lake was dropped to its near historic level.

It is clear from Corps data that Lake Lanier elevation in 2007 was maintained higher than 2007 even with somewhat lower rainfall and unfortunately Lake West Point was placed in the untenable position by the Corps, it was looked at as described by the Corps as the workhorse and drained.

What could have been done? During 2007 in the midst of the worst drought, the basin in-flow during winter and early spring of 2007 was producing flows in excess of the 5000 CFs minimum flow requirement. The Flint River by itself was producing 5000 CFs minimum flow. In some cases, basin inflow during that period ex-

ceeded 35,000 CFs. However, due to the overly aggressive nature of the flow requirements of the IOP and the fact the Corps and Fish & Wildlife did not anticipate nor track the evolving drought, nearly all of the available water was flushed through the system as required by the IOP, without any regard for refilling of the reservoirs.

In fact, if a more conservative approach had been taken, there would not have been such a rush to judgment about the loss of mussels due to stranding, the flows would have been less variable but still sufficient to support sturgeon. It is clear the IOP has been and continues to be a significantly detrimental tool employed by the Corps and Fish & Wildlife in the name of endangered species.

The Corps performed a perfunctory environmental assessment and subsequently issued a premature finding of no significant impact. However, the Corps' alternatives did not examine the impact of a severe drought, did not examine the effects of ramping, did not examine in detail the economic and social damage that the IOP would cause upstream, and did not examine other options available to sustain viable species communities.

Mr. Chairman, this concludes my testimony. I again appreciate the Committee taking time to convene the field hearing and I stand available for questions.

[The prepared statement of Mr. Crisp may be found in the Appendix on page 199.]

Mr. JOHNSON. Thank you, Mr. Crisp.

In the interest of time, we are going to proceed on to our third panel. We do appreciate the testimony of the persons on the second panel and you will probably receive questions from the Committee, written questions, for your response so that we can include those in the record. Thank you very much.

[Applause.]

Mr. WESTMORELAND. Mr. Chairman.

Mr. JOHNSON. Yes, sir.

Mr. WESTMORELAND. Mr. Chairman, due to the limited amount of time that we have for these hearings today, and we are only able to hear from a limited number of the stakeholders that are affected by this drought and by how the Corps has managed the basin, for that reason, Mr. Chairman, I have written testimony from some of those affected stakeholders that I would like to submit for the record and I would also ask for unanimous consent to keep the record of this hearing open for five business days so that people can revise and extend their remarks based on what they have already heard and what they will continue to be hearing today from the General and Mr. Hamilton.

Mr. JOHNSON. Yes, sir, without objection, so ordered.

Mr. JOHNSON. And we will now proceed with testimony from our third panel. Who we have here today is Brigadier General Joseph Schroedel, who is Commander of the U.S. Army Corps of Engineers, the South Atlantic Division based in Atlanta, Georgia. And also we have with us today Mr. Sam D. Hamilton, who is the Re-

gional Director, Southeast Region, U.S. Fish & Wildlife Service, Atlanta, Georgia.

Gentlemen, welcome today. You have five minutes for your testimony. Your written statements will be included in the record. Thank you very much for coming.

We will start with General Schroedel.

STATEMENT OF BRIGADIER GENERAL JOSEPH SCHROEDEL, COMMANDER, SOUTH ATLANTIC DIVISION, U.S. ARMY CORPS OF ENGINEERS

General SCHROEDEL. Thank you, Mr. Johnson, Mr. Westmoreland.

It was suggested today that I was a three and a half point underdog on an away game. I appreciate the warm welcome because America loves underdogs. So it is great to be here.

[Laughter.]

General SCHROEDEL. Members of the Committee, I am Brigadier General Joe Schroedel, Division Commander, as you have said, of the South Atlantic Division of the Corps. I oversee the management of 13 basins here in the southeast.

I appreciate the opportunity to testify before you today and to engage the concerned citizens of this great community on our precious water resources. I would also like to take a moment, if I can, to thank all of you as American citizens for your support for the ongoing war, and especially for support to our American military, my own son included who is in Afghanistan at the moment, and for the civilians, approximately 800 Corps of Engineers civilian volunteers who are deployed around the world also supporting this nation's national objective. So I appreciate the support that you have given to your sons and daughters and husbands and wives who are supporting that effort. I think that is an important thing to do.

[Applause.]

General SCHROEDEL. Gentlemen, in my testimony today what I would like to do is emphasize just two simple points. The first is the Corps response to this record drought in order to demonstrate our flexibility and our lack of rigidity. And secondly, I would like to highlight, if I can, what is really more important than trying to agree on the past. And that is looking forward to the future as one team, one group of American citizens who are faced with an ever-changing climate and we have got to know how to deal with that in a more responsive way.

So I would like to highlight in that regard the importance of the public's participation, each and every one of you here and those who are not here, to get the word out that the entire public has got to participate in the Corps' updating of our manual. That is an open, public process and if you want the rule curves changed as we do, then you need to participate. That is my second point that I will cover a little bit today. So our future success depends on every citizen in this region.

The Corps of Engineers generally constructs and operates multipurpose water resource projects and manages those projects within

a watershed as a system, irrespective of political boundaries. The authorized purposes for the ACF and ACT systems are flood control, hydropower, navigation, water supply, water quality, recreation and fish and wildlife conservation. And we have got to balance all of those needs. Our day-to-day operation of our multi-purpose projects is guided by our water control manuals and seeks to balance those often competing purposes.

During this drought, the competition for limited water resources has been magnified and our management of the system has adjusted to meet the harsh conditions that mother nature has presented us. For example, by the way, if we were mindlessly following our guide curves, West Point Lake would be seven feet lower than it is today. I think that is proof enough that we are not mindlessly, rigidly following some kind of 50 year old manual. We are not doing that. This lake is not even that old.

So what have we done to help manage the conditions of the drought? Well, let me just list a few and I will cover a few of them in detail.

First, I have authorized—and I have the authority—I have authorized deviations on virtually every lake under our control in the southeast. We have accepted greater risk by doing that, greater risk in terms of flood control capacity, but we have done that throughout the southeast to conserve water in our system.

Second, you have heard a lot about the interim operation plan. And we suspended key features of that almost a year ago and we have been managing the system in a more flexible way, as I mentioned. We developed the exceptional drought operations plan, which you have heard a little bit about, which was intended to conserve more water in the system, and it has done that. Again, today West Point Lake is three feet higher than it normally should be at this point of the year and it is only two feet away from summer pool and it is not even April yet. So I think that demonstrates our flexibility.

About a year ago, I personally went to—

[Laughter.]

General SCHROEDEL. I will be glad to talk to you afterwards.

About a year ago, I personally went to Governor Perdue and to Governor Riley and suggested that it looks like a major drought, that this drought was going to get worse, and suggested that we host a drought summit, we did that. And we have since conducted on the ACF biweekly teleconference calls that average 50 to 60 people wide open to the public, members of the Congressional staffs, yours included, participate. And I will tell you that the majority of the witnesses you have seen before you today also personally participate in those calls. It is important that everyone know about that because on those calls, we announce our impending decisions and adjustments to the system ahead of time in order to allow—I am talking weeks in advance—in order to allow the public to comment on the decisions that we are about to make. We have had that going on now for almost a year on both the ACT and ACF.

We have also done quite a bit of work to try to manage the hazards that have presented themselves here at West Point Lake. We have spent thousands of dollars helping to mitigate those hazards. We have also done a lot of engagement with the public. Somebody

commented to me earlier today that it is a shame we have to have the members of Congress invite me here in order for me to show up. Well, I will tell you what, I will come down any time and I have asked all of my subordinate leaders to engage the community and I usually check that. But I would personally welcome the opportunity to come back and do a town hall with all of you and maybe we could take more time and dispel some of the other myths that are out there. I would love to do that.

On the ACF, in September of 2006, we implemented the interim operating plan, which provided for target flows to support endangered species under differing hydrologic conditions. And by the way, during the recent negotiations between the three states, there was one true point of agreement that I think we got them all to agree to. They all hated the IOP. So that was a good thing.

[Laughter and applause.]

General SCHROEDEL. With the extreme conditions of the summer of 2007—and this drought hit hard and fast. If you look at the conditions in about July, you will find that we were on a fairly normal path, even with the drought. Let me tell you something that was very different that had never happened before and we had never experienced before, starting in about July and August, which changed the conditions dramatically. We had never experienced negative inflows into the system. USGS has stream gauges in every stream and believe it or not, there was more water leaving the system through evaporation than was actually coming into the system. That had never occurred before and that was why we hurried up and responded to try to change our system.

The biological opinion under which we are operating expires June 1, 2008. We are currently revising our exceptional drought operations plan and IOP and then putting together a biological assessment which we will deliver to the Fish & Wildlife Service by mid-April for them to do a biological opinion by 1 June so we can adjust both the IOP and EDO. Cannot give you specifics right now, but I will tell you we have listened to the states, we have listened to the stakeholders. Everything I just said to you has been announced on those drought calls every other week when we hold those calls. So that is not new information, we have been working that for some time.

As the situation stands, it would appear that we could be entering the spring and summer season with the lowest amount of storage ever on the ACF basin. Lake Lanier, as you heard, is about 15 feet below the summer pool. West Point Lake will be at the summer pool very soon. So we feel that we have got the southern part of the system in pretty good shape. By the way, that is a function of where the rain is falling.

As conditions deteriorated in the spring of 2007, as I mentioned, we conducted the drought summit and then began our drought calls to immediately engage the public, to listen to the public, and to be very wide open and transparent about the decisions we were about to make on the system. So in that regard, I would like to emphasize that open and continual communication between the Corps, between other federal agencies and you the public is imperative. We have got to know what you are thinking.

Our coordination with federal agencies is also very important. Not only do we rely on our relationship with the Fish & Wildlife Service, but we also rely on the United States Geological Service. Just so you know, all of our lake level gauges, all of the stream gauges are not Corps gauges, they are USGS gauges. So we get independent measures of what is going on in the system that we use to manage the system. We also rely on NOAA for forecasts, both short term and long term forecasts. And I will tell you, nobody saw what happened in late summer last year coming. La Nina aside, nobody saw conditions of negative inflows ever being a reality. And it was and it hurt the system pretty quickly.

Last comment that I would make is regarding the manuals. Water challenges are here to stay. And as I mentioned earlier, we need everybody to participate in that wide open process.

I would like to make one other very strong point. As you all know, the states, these three states on these two systems did not come to an agreement on the allocation of water between the states. The water control manuals will not resolve that problem. That is a state right, that is a state issue and the water control manuals will not ever—not ever—resolve the allocation of water between states. That is a separate issue. We are just in the beginning of the process and I would invite each of you again to participate in that process and let us all get together and look forward and ensure that as climate changes, as economy changes, as the population changes, that we all figure out the ways out of these situations and not waste our time and our energy pointing fingers and trying to figure out who did what to get where we are. That is not what is important.

Again, I appreciate the opportunity for your support and I look forward to answering your questions. I also look forward to spending more time if I can with this community in addition to my District Commander who is responsible for this lake.

Thank you, sir.

[The prepared statement of Brigadier General Schroedel may be found in the Appendix on page 226.]

Mr. JOHNSON. Thank you, General.

[Applause.]

Mr. JOHNSON. And by the way, thank you, General, for serving your country as a man in uniform.

[Applause.]

Mr. JOHNSON. Next, Mr. Hamilton, Regional Director, Southeast Region, U.S. Fish & Wildlife Service. Thank you for coming today, sir. You have five minutes for your testimony. Your written testimony will be included in the record.

STATEMENT MR. SAM D. HAMILTON, REGIONAL DIRECTOR, SOUTHEAST REGION, U.S. FISH & WILDLIFE SERVICE

Mr. HAMILTON. Thank you very much. It is good to be here, I think.

[Laughter.]

Mr. HAMILTON. And to be last.

As you have heard, there is quite a bit of discussion about the role of mussels and endangered species. I hope to touch on that, but in five minutes, I cannot do it justice. But hopefully in the questions and answers we can cover some of that.

I do represent the Department of Interior, I represent the United States Fish & Wildlife Service and I have done that for 30 years. The Southeast Region includes ten southeastern states and the Caribbean.

The Fish & Wildlife Service is the principal federal agency that is responsible for conserving, protecting and ensuring that fish and wildlife resources are protected for your generation and for future generations. And part of that role and responsibility is the Endangered Species Act which was passed by Congress in 1973.

As you have all heard, this drought is significant. It not only affects Georgia, it affects Alabama and Florida and all across the Southeast. We are very actively working with the Army Corps of Engineers and the Tennessee Valley Authority on a number of river basins dealing with some extremely sensitive issues. This drought has had a profound effect, as you all have heard and you have experienced, on the economy of the state of Georgia. If we were having this field hearing in the state of Florida, I expect they would feel the same way. And similarly in the state of Alabama with the ACF and ACT basins.

Oftentimes people say what is the worth and why should you care about endangered species, you know, it is just a bunch of mussels. The southeastern rivers are the most diverse rivers in the United States, they always have been. The biodiversity that is found there is unequaled. That is why the reservoirs in the Southeast are the most productive. The rivers are really like a lifeline and the arteries of communities like this, but also all across the Southeast. Where I grew up in Mississippi, the Mississippi River is that very artery, it provides clean drinking water, recreational opportunities, navigation, fish and wildlife habitats and food for people. The Southeast is blessed in many regards in that respect.

In addition to the biodiversity that we have, it is the most imperiled biodiversity in the United States. Two-thirds of the nation's mussels are endangered. One in ten have already gone extinct and 40 percent of the fish in the United States are threatened with extinction. So our rivers are important not only from an economic perspective but also from an environmental perspective. The health of the river is made up by the biodiversity that you find there.

So we take our job very seriously and we understand the implications of what we do when we get into this. This issue, unfortunately, has been characterized as mussels versus people. And most of you know that this issue is not new and it has been around for 20 years. You have heard about the water wars. We have spent the last five months negotiating and discussing with the three states and the governors on how to hopefully bring an end to that issue. Those discussions will likely continue into the future. We have worked very closely with the Army Corps as we entered into a drought and will continue to work with them as we understand conditions in Lake Lanier are very serious as summer approaches.

We got into the 2007 interim operating plan under the eyes of the federal courts in the state of Florida in litigation that has

clouded many of these discussions. And we continue to have litigation surrounding all of these discussions and the management of the ACF system.

We realized working very closely with the Corps in 2007, the drought continued to worsen so the exceptional drought operation plan was put into effect and the storage of all high flows, when they come, are now allowed to be stored. We also agreed to drop the endangered species required flows by ten percent from 5,000 to 4,500 CFs in a biological opinion. Recognizing the emergency situation or at least the seriousness of it, we did it in 15 days. The typical consultation period is four months. We did it in 15 days, the first time that has ever happened.

We have a team of folks working with all the states right now looking at contingency planning on how to relocate mussels as well as bring them into captivity, which is highly speculative and oftentimes not very successful. Nevertheless, we look for flexibility and we are looking for ways to maintain the very rich biodiversity that is found in the Apalachicola system and the Chattahoochee system, recognizing the limitations that we have to face in the record drought.

The 5,000 CFs that we hear talked about quite a bit historically only happened in the last 100 years, maybe a handful of times, if that. That is where 5,000 CFs comes into play. But we have authorized incidental take of endangered species through the biological opinion, for the Corps to go to 4,500 CFs. We will reissue a biological opinion based on a new plan when we get that some time in the next month or so.

Secretary Kempthorne has invested quite a bit of time and effort trying to negotiate and work with the states on how to allocate these flows throughout the three state area, and continues to be committed to try to work through those issues with all the stakeholders and partners.

In the end, I would say that the Fish & Wildlife Service is very sensitive to the competing needs and issues and very much recognizes the effect on all these reservoirs as well as on the Apalachicola system itself, one of the greatest estuaries left in the Gulf of Mexico and certainly in the eastern United States. And we continue to want to work very closely with the Corps and all of you as we work through this exceptional drought that we are dealing with.

And I will reserve the balance of time for questions. Thank you.

[The prepared statement of Mr. Hamilton may be found in the Appendix on page 237.]

Mr. JOHNSON. Thank you, Mr. Hamilton, we appreciate your appearance today to shed some light on your agency's handling of this issue.

Congressman Westmoreland has been concerned about the impact that this drought has had on Georgia's economy, specifically this area of his district. And with that in mind, I think it is best for me to yield to Congressman Westmoreland for questions.

Mr. WESTMORELAND. Thank you, Mr. Chairman.

First of all, let me say, General Schroedel, I want to thank you for being here today. I want to thank you for your openness. I think

I met you about a year ago in Columbus and we were talking about this same subject. And General Schroedel told me then that he would be responsive to me in getting me any information that I requested, and he has been true to that. I normally write him—I think I have written him over 17 letters in the last year or so. And in about two weeks, we will get a response. And trust me, that is lightning fast for a government agency. So I do want to commend you and thank you for that. And I want to thank you for all that you have done for this area in the last year. I think we have seen some improvement and I think we have seen the dialogue open. I want to thank you for the years of service that you have given to this country. And now I am going to ask you some hard questions.

General SCHROEDEL. Sounds great. Bring them on.

Mr. WESTMORELAND. General, this lake has got Congressional authorization and I am sure you are aware of that. One of those authorizations has been for recreation. And as you know, the recreation level is about 632.5. Over the past 30 months, I think we have actually had two months out of 30 that have been at that level for recreation. And as you heard today testimonies from these small business owners and from others the effect that it has had. Where does that Congressional authorization fit in with the Corps' management of the lake and the basin?

General SCHROEDEL. Sir, we often get asked the question, hey, can we prioritize those Congressionally authorized purposes. And we generally shy away from that because what we try to do is manage the lake levels in a way that we can provide some level of all of those Congressionally authorized purposes. And in terms of recreation, you know, some people would advocate that well, recreation is less important than flood control, for example. Well, maybe during certain times of the year, that may be true. But I think the way we would come down on that is we take what mother nature gives us, we manage it the best we can to meet all the purposes and if the lake is not full or does not meet the recreation level, at least there is some water in the lake and we need to figure out how to adjust how we use what is in there.

I can tell you after being in this same level command in the west for three and a half years, where five inches of rain is what is experienced out there versus the average here of almost 50 inches of rain normally, what you will find in the lakes out west are three levels of ramps. They have actually built three levels of ramps in their lakes, depending on what mother nature gives them. So if it is a good year, we will use the top ramp, if it is a bad year, we will use the low ramp.

So, sir, I would suggest that one of the things we need to think about hard as we face climate change and face more of these kinds of droughts and more severe droughts, we ought to think about maybe how we adjust our behavior to accommodate mother nature and use what she gives us.

So we do not prioritize, we try to balance all of the competing needs and all of the Congressionally mandated purposes.

Mr. WESTMORELAND. That is great and I think that we would love to see some of these boat ramps extended where we would have more than two ramps making the lake accessible. But also,

this would have been some good thought for the Corps to remove some additional stumps that are out there in the lake.

General SCHROEDEL. Absolutely.

Mr. WESTMORELAND. Because when you get down below that 632, there are many foots of some of these motors laying out there. And I think Mr. Nichols testified to the damage of some of the boats that he leased due to the fact of the Corps leaving some trees out there that does not let us enjoy some of those levels.

I had written you a letter I think in February of 2008 talking about the sensitivity studies and we have talked about, you know, or at least heard today about rule curves, engineering designs, modelings and other things. And I sent you a letter requesting these sensitivity studies that you had sent out to California. And you had written me back and said it was confidential information, that it was an agreement with the governors and the states. But that agreement is gone now and is there any way now that you might—and I am not going to try to put you on the spot and we will talk about it later, it is a hard question, I know. But we need to know what those are so we could get Mr. Crisp and some other people able to look at it. Not that we do not trust you, but there have been some studies done and some studies released about economic impact and use of these lakes where West Point really was not included in those studies. And so we want to feel like we are a part of it and at least we have something to kind of back up or affirm what you may say.

General SCHROEDEL. Sir, I will go back and look at it, but you know, the negotiations that we went through with the three governors and their delegations over the last four months or so, we all signed, including Sam here, a confidentiality agreement at the request of the governors and at this point, we are still told that any of the information and discussions that were a part of those deliberations are still—we are still under the confidentiality agreement.

But I would tell you that those sensitivity analyses to which you refer, you would not get a whole lot out of it, I will just tell you that. It turned out not to be very significant.

Mr. WESTMORELAND. That does not surprise me, for some reason.

General SCHROEDEL. But I will go back and—

Mr. WESTMORELAND. I understand, but if you could just go back and look at it.

General SCHROEDEL. Yes, sir, I will, gotcha.

Mr. WESTMORELAND. Since the agreement is not working.

General SCHROEDEL. Yes, sir, I will.

Mr. WESTMORELAND. And here is the other thing. You know, in a meeting that me and you and Mr. Hamilton and others were at Senator Chambliss' office I guess, you mentioned that the Corps had used West Point as the workhorse of that basin. And I understand. I do not know where that term came from, but is it not true that it was not—that basin, the ACF, was intended to be part of a three-legged stool. You had the Allatoona, the ACT and the ACF and then you had the Flint.

General SCHROEDEL. Right.

Mr. WESTMORELAND. And if you look at the map right behind you, and I know you are familiar with it, the Flint comes down through Bainbridge into Lake Seminole. And General, I am sure

you have gone back too and seen in 1945 that there were three dams authorized for the Flint.

General SCHROEDEL. Yes, sir.

Mr. WESTMORELAND. That was de-authorized I believe in the WRDA bill or the water bill of 1982 or 1986, I cannot remember now. But it was de-authorized. But we have heard testimony today and I think both of you or at least some other people mentioned the water that comes in from the Flint, we really have no way to control that water. And we are looking for a fix, not a bandaid but a fix. And I think if we are ever going to get a fix, that we need to be looking at some ways that we can control that water on the Flint.

General SCHROEDEL. Absolutely.

Mr. WESTMORELAND. What is the Corps' feeling on that and if that was something that the Corps came up with in 1945—and I know you were not with the Corps in 1945—probably were not born in 1945, but in 1945, the Corps saw the necessity for this three-legged stool to manage this water and now we have only got two legs.

Can you just address that for a moment?

General SCHROEDEL. Yes, sir. I would tell you that my contention is we probably would not have any discussions about the ACF if we had those reservoirs on the Flint. For example, the 5000 CFs that we talk about at the Chattahoochee gauge to support the endangered species in Florida is really kind of the natural flow. And what you would find if you look at the records of what the flows actually are, since we cannot control what comes down the Flint, you will find many days of 26,000, 30,000 CFs flowing, not 5000. And the only reason it is that high is we cannot control it.

The significance of the Flint to the Chattahoochee is pretty simple. If you cannot control what comes down the Flint and it turns out that water just flows right on out to the bay, and then you need to augment the flows at Chattahoochee, where are you going to get it. Well, we cannot control the Flint, so that is where we turn to the Chattahoochee and be it Lanier or whatever, we have got to rely on this system.

And today, the situation we find ourselves in because of the way the rain fell, which basically the rain the last several months has ignored Lanier, Allatoona, Carters, Weiss, all of the headwater lakes of these systems have been ignored pretty much by the rain. So they are hurting. The rest of the system like West Point is pretty healthy. So what have we got to augment those flows? It is going to come out of where you have the water. So if we had the ability to control the water in the Flint, we would be in a much better shape to preserve water on the Chattahoochee leg. So you are absolutely right.

Mr. WESTMORELAND. Well, thank you. And Congressman Deal and I are working on legislation right now to kind of renew those studies and we hope that the Corps will join us in that in maybe relating to some of the powers that be that we think it would be money well spent to do that study. And I am sure the people of Albany and down river that have been flooded out would certainly agree to that too.

Mr. Hamilton, are you familiar with a study that was completed by the Corps relative to I think it is the Fat Threeridge Mussel that was prepared by Barry Payne of the U.S. Corps of Engineers?

Mr. HAMILTON. I am not necessarily familiar with that study, but assume that some of the results have been factored into our biological opinion.

Mr. WESTMORELAND. Okay, so you think that—because if you look at that report, it talks about maybe that there are more mussels, they are a little more abundant than what had originally been anticipated. And I think—and I am not sure if it is the same study or another one that goes into the fact that at a time I guess that one of these original studies was done, that there was not divers and equipment and boats and other things that were made available to do this study.

Mr. HAMILTON. Well, I think that is a good observation. You know, when dealing with endangered species, oftentimes there is a lack of information on the abundance and distribution of them. We have found some small populations up and down the Apalachicola as well as in a couple of other river basins. So we continue to get new information. The states of Florida and Georgia as well as a number of researchers are out working that river today. So we are getting new information and an update on that one.

Mr. WESTMORELAND. Okay, because I think that was an August 26, 2007 study where they looked at several different species of the mussels.

Let me ask you another question. And I had asked you in Washington this same question and I think you referred me to one of the other gentlemen, but did you ever find out what the natural flows of the Chattahoochee and the Flint were?

Mr. HAMILTON. I did dig into that. You know, when you talk to these hydrologists—

Mr. WESTMORELAND. I am going to keep asking him until he answers.

Mr. HAMILTON. Yes, sir. I will give you the answer, but I am not a hydrologist. There is a range of flows. You have median and medium flows and you have peak high flows and medium monthly flows. But the flows that I heard today dating back to I think the 1920s—the U.S. Geological Survey are the folks that manage the gauges that General Schroedel talked about—the figures that I saw were around 5,000 CFs for the low flow. I think since there were impoundments, flows dipped below that just a couple of times. But pre-impoundment, up to 291,000 CFs was the figure that I was given today. So you have this wide range of high spring flows and winter flows dating back in the 1920s to 290,000 CFs all the way down to low flows of about 5,000 CFs.

Mr. WESTMORELAND. I think that there are, at least from some of the people that I have heard from not only in Troup County but in Coweta County, there has actually been certain instances back in the 1920s and the 1930s where people have actually walked across the Chattahoochee River because of the drought. I had one family tell me that their family had actually planted a garden down in the river bed one summer to be able to water it, because the drought was so extensive.

So, you know, these species have adapted to the most severe drought we can ever imagine that would come down, and that was during a natural flow of the river. And as the General talked about, we have got to learn to deal with climate change. But these are cycles that we have been going through, you know, since this place was created.

The other question that I was going to ask of the Fish & Wildlife is—I think, is it June 1 that we go back to the old way of doing business? It is not?

Mr. HAMILTON. No, sir.

Mr. WESTMORELAND. Okay.

Mr. HAMILTON. We issued a biological opinion based on this exceptional drought that would carry us through June 1. And since November, obviously we have been in discussions with the three states, collecting information and looking at how to modify the interim operating plan which nobody likes. And it did have unintended consequences, the exceptional drought plan, and looking at flows up and down the system. So we have gotten a lot of good information out of that. The Corps obviously has gotten a lot of good hydrologic information. They are working to take that information and they are going to update and modify the plans and do what is called a biological assessment. Our hope is that that will come to us sometime maybe in April. We intend to prepare a biological opinion reacting to what they give us by June 1, 2008.

So I do not think anybody expects that we will fall back to the interim operating plan. That will not happen, I do not see that happening.

Mr. WESTMORELAND. Okay.

General SCHROEDEL. Sir, if I could add to that.

Mr. WESTMORELAND. Yes.

General SCHROEDEL. The current scheme, the exceptional drought operations procedures that we are using, the major difference between that and the old IOP is that 5000 is essentially the maximum that we are letting go at the Chattahoochee gauge. Under the IOP, what some people refer to that exacerbated the problem was the fact that above 5000—if the inflows into the basin reached 18,000 CFs, the old IOP said we let that go in addition to the 5000.

Mr. WESTMORELAND. That is what I am getting to.

General SCHROEDEL. And everything above that, we let about a third of that go. What the EDO or the exceptional drought operation scheme says is we are not going to do that. It is 5000. But what the EDO also says is we can go below 5000, down to 4750. What we are in the throes of doing is adjusting the IOP also.

But here is the key point. The way we manage making the decision to move to either a new IOP or the old IOP or something other than the exceptional drought scheme is what we call triggers. So what we do is we now have a composite entire basin storage rule curve that has four zones—zones 1, 2, 3, 4. And we track composite storage in all of the basins on the system. Today, the composite storage is in zone 4. The trigger—the trigger—that would cause us to come out of the exceptional drought operation is when the composite storage gets back into zone 2. We do not see that happening any time soon, in the next couple of years, which means right now,

our expectation is we stay in the exceptional drought operation mode probably for the next couple of years, because the composite storage—we do not see that getting back there any time soon.

So we have done it on an event and on a situation basis as opposed to, you know, some unscientific or non-specific kind of trigger.

Mr. WESTMORELAND. Well, I take that as good news—I take that as good news because we are able to store some of that water that we have just been flushing out the Gulf.

General SCHROEDEL. Absolutely; yes, sir.

Mr. WESTMORELAND. General, my last question to you, you have been here for a year and I think we have made great progress. In your work with Sam, I mean you all are like twins, every time I go somewhere, I see you all together, so I know you are working very closely. But one of the problems that we have had with the Corps is change of command. And we are right now in the process of rewriting or updating these water manuals and, you know, we hear about places on the Missouri River or other places that it has taken eight years to update these manuals. And I am not saying whoever comes after you is not going to be as good a communicator as you have been, but how long—I mean honestly, how long do you think it is going to take to update these manuals and, you know, what kind of influence do you think you are going to have in the common sense approach that you have taken to some of this in getting these manuals updated in a speedy fashion?

General SCHROEDEL. Sir, I appreciate you asking the question. First, in terms of me personally, I appreciate your comments and I thank you for those.

My position is normally a two year command. I am going to stay for a third year, so I will be here at least through next summer.

Mr. WESTMORELAND. Good deal.

General SCHROEDEL. The other thing that we have done, we the Corps have done, and the Chief of Engineers has done, at the request of the Congress is we have put in place a gentleman by the name of Mr. Jerry Barnes, who is a long time Corps employee, a general officer equivalent, senior executive service retired. We brought him back and now his sole duty is to be the overseer of the manual process. He was told by the Secretary of the Army specifically that he answers to the Congress, he answers to the Chief of Engineers and he has the oversight. So we have put in place that long term continuity.

So in the short run, we have already been given the go-ahead to do the manuals. We have already announced them in the Federal Register. The first step is a basin-wide EIS, that is an environmental impact statement. And this is where the public comes in. A part of that EIS process is developing alternative procedures for how we operate the system. We will take that input and develop alternatives and then ultimately come to a conclusion.

So the direct answer to your question on how long it is going to take—and I am going to say this in a qualified way—and what we have seen in writing is that the Corps has said it takes two to three years. Well, that is two to three years, assuming nobody gets in our way and that the public participates. So there are lots of things that could happen that would slow us down, and I think

most people know, or at least I hope you know that the Corps has tried to begin to update these manuals for the last 20 years and we get stopped every time we try. Our opinion right now is that the time is right because of the drought, because of the mandate of the people that you expect it, and through your elected members, you will ensure that it does happen.

So in a positive, unimpeded environment, sir, we could probably get it done in two to three years. How long is it really going to take? Sir, your guess is as good as mine. I hope we can get it done in the amount of time that we think we can do it. But we are going to need the help of every citizen in the region and the Congress and everyone else in the industry, municipal water supply, whatever. We need everybody's help to figure out the right way to manage these systems. So you all have an important role to play in helping us do that.

Mr. WESTMORELAND. Thank you.

Mr. JOHNSON. All right, ladies and gentlemen, out of respect for your time, I am going to not ask any questions and I will say that I am very impressed with the number of people that are here for this hearing and the fact that you hung around throughout the hearing. So I am very much impressed, and once again, I would like to thank Congressman Westmoreland for his efforts in putting together this hearing as well as the distinguished panelists who have appeared before us today.

This hearing, ladies and gentlemen, has been an excellent opportunity for me to hear the perspectives of the panelists on this extraordinary situation and also to hear from those who reflect your concerns about it as well. I think that it has been very helpful for the federal agencies to hear the perspective of the small businesses that are suffering as a result of this drought, and I also think that the small businesses have benefitted by allowing the federal agencies to explain how they try to balance the varied and complicated needs of the ACT and ACF river systems.

It is my sincere belief that with the continued involvement of everyone present here today, Congress, federal agencies and the governors of Georgia, Alabama and Florida, will arrive at an equitable solution to the tri-state water sharing issue and this is definitely in the interest of the public.

The testimony that I have heard today has been extraordinarily helpful and I will continue to work towards a solution.

Having given my closing remarks, I will now ask for closing remarks from Congressman Westmoreland.

Mr. WESTMORELAND. Thank you, Mr. Chairman. And I want to thank the General and Sam for being here. You know, we heard several people talk today about common sense and the lack of it. And there is nobody that has dogged the Corps and Fish & Wildlife more than me. I have talked bad about them a lot, some they deserved it and some they did not. But these two guys here—and I am going to take up for you—they try to put as much common sense behind the decisions that they make as they are allowed to by law. And I was not a big believer in that, but I have met with these gentlemen, this is probably the fourth time that we have sat down and talked and I can tell you that these two guys right here try to use as much common sense as they can.

I want to thank you all for coming, you came into what could have been some hostile environment today, but I want to thank both of you for being here and taking your time.

And I want to thank all the witnesses who came and took their time out to come and testify in front of us and let us hear it and let Congressman Johnson hear it, because when we go back to these delegation meetings that we have—and I want to tell you, you know, you hear the term bipartisan and there is not a lot of that in Washington, I can promise you, but truly bipartisan is the Georgia delegation with both the U.S. Senators, with Mr. Lewis and Hank and the Republicans. We have all worked together on this issue and some of the correspondence that we have had with both of these agencies.

I want to thank all of you in attendance today for being here, to come out and to show the agencies, the General and Mr. Hamilton, the kind of concern that this has and to show Congressman Johnson that this is a concern. And all those pictures that were up there—and Mr. Hamilton, I think if you saw all those pictures, surely we have got some kind of endangered species somewhere that should be floating in that lake. And Mr. Nichols will give you a boat and we can get some volunteer divers to look for some of these things.

[Laughter.]

Mr. WESTMORELAND. But we have got to have something endangered in that lake. But I want to thank all of you for being here and giving me your support and letting these people understand that what I have been telling them has been justified.

I also want to thank the people here at West Georgia Technical College, who made all the arrangements and handled setup for today's hearing. I want to thank all the staff. We cannot go anywhere without staff telling us what to do, and for them traveling to LaGrange from Washington, D.C. and all the preparation that they did for Hank and I in getting prepared for this hearing.

And I also want to thank this gentleman sitting next to me, Congressman Hank Johnson. You know, one of the requirements, as he stated before, is that in being eligible to have a field hearing, you have to have somebody from the Majority party that is willing to come down and hold a hearing for you. And when I went to Hank, I mentioned it to him and he accepted immediately. He said yes, I will do that for you, because he understood and he had heard me talk in some of these delegation meetings about how we were suffering down here. And so when I asked him to participate, he never hesitated one minute, and said Lynn, I would be happy to do it. So I want to thank him for taking that time out and I want to apologize to him for getting caught in the road construction. But I do want to thank you for coming down here and chairing this very important hearing and I hope to return the favor to you one day, that I can go up and sit in on a field hearing that is important to your district as this hearing was for my district.

But Mr. Chairman, that is all I have got. Again, thanks to everybody here and I yield back the balance of my time.

Mr. JOHNSON. Thank you, Lynn. And I will tell you, it takes you to be in the Majority for you to have to come to my district to do what I did for you.

[Laughter.]

Mr. JOHNSON. And I do not think I want to see that happen any time soon.

So I am going to ask unanimous consent that members of the Committee have five days to enter statements into the record. Without objection, so ordered.

This hearing is now adjourned.

[Whereupon, at 2:16 p.m., the Committee was adjourned.]

Opening Statement of
U.S. Representative Lynn A. Westmoreland
Committee on Small Business

Field Hearing on "The Impact of the 2006-2007 Drought on Georgia's Economy"

Tuesday, March 25, 2008

Thank you, Mr. Chairman, for holding this hearing today. I would also like to thank all of the witnesses for their participation. I know all of you have very busy schedules and feel honored that you would take the time to provide this committee with your testimony. I am sure that today's testimony will prove to be very helpful.

Georgia's water crisis has been caused by a severe drought, by the U.S. Army Corps of Engineer's mismanagement of river basins based on outdated science and population figures, and by water wars among Georgia, Alabama and Florida that have been ongoing for a number of years. The Corps, under an agreement reached in the 1980's with U.S. Fish and Wildlife Service, the state of Georgia, and downstream users, release 5,000 cubic feet per second (cfs) of water up to 3.2 billion gallons a day downstream into the states of Alabama and Florida. The figure was based on hydroelectric power plants needs, as well as concern for endangered species in the river, but most importantly, this flow of water was based on a consistent schedule of rain.

I, along with the entire Georgia congressional delegation have been very engaged in this serious on-going issue. To this end, we introduced legislation in the U.S. House of Representative (H.R. 3847) and in the U.S. Senate (S. 2165) to alleviate the current water crisis by allowing states suffering from droughts to be exempt temporarily from the Endangered Species Act, which in Georgia is threatening our low water supply by taking away large amounts of water from north and middle Georgia and sending it downstream to protect mussels and sturgeon.

Specifically, the Corps is managing releases out of Lake Lanier and Lake Allatoona in a manner that is in the best interest of endangered mussels in Alabama and endangered sturgeon in Florida, instead of in the best interests of the people of Georgia. Georgians who rely on this water for not only for drinking, cooking, bathing, and cleaning, but also for recreational purposes that creates jobs and grows the local economy.

Furthermore, we have requested and the Corps has agreed to update the 20-year-old Water Control Plan for the Alabama-Coosa-Tallapoosa (ACT) and Apalachicola-Chattahoochee-Flint (ACF) River Basins that run throughout Georgia, Alabama, and Florida. The current releases of water from these two basins are based on science and population figures that do not reflect the tremendous growth and modern-day needs of Georgia. We have also requested that the Corps start from scratch when compiling the plan manual for the ACF Basin and not use the Corps currently flawed Interim Operating Plan (IOP) as a baseline for the new manual.

It is imperative that we update the water control plan to reflect 21st Century water demand and usage in Georgia, Alabama, and Florida and to bring about a resolution among the states to see that the threat to our Georgia lakes is stopped.

Recently, it was announced that there are changes planned regarding the Corps' operations in Georgia that will allow us to put aside additional water during this unprecedented drought. The Corps-- in consultation with Fish and Wildlife-- announced it had drafted an interim operating plan that would reduce the minimum flow from Woodruff Dam at Lake Seminole to 4,750 cfs, a 5% reduction. Subsequently another ramp down to 4,500 cfs will be authorized, ***a total of 10 percent reduction***, unless the federal reservoirs recover drastically due to improved conditions, these lower water flow levels will be implemented through June 1, 2008. The plan would also allow reservoirs such as West Point Lake to store any additional inflows above 5,000 cfs. The Corps releases are designed to provide enough water flow for human use and to sustain these endangered species. I believe this is a small step in the right direction to deal with a problem that immediately confronts us.

Mr. Chairman, in some way, this drought has affected everyone assembled here today. I look forward to hearing from our distinguished panels, and to continue working with you and the rest of the Georgia Delegation to address this important issue.

Congressional Hearing
House Committee on Small Business
March 25, 2008

My name is Dick Timmerberg and I am the Executive Director of the West Point Lake Coalition, a board member of the Middle Chattahoochee Water Coalition, a member of the West Point Lake Advisory Council, and at the request of Georgia EPD, I served two years on the Chattahoochee Basin Advisory Committee in Phase 1 of the Georgia Statewide Water Planning Process.

I want to thank the House Committee on Small Business for the opportunity to testify here today as to how the economy of West Georgia in general and the small businessmen/women in particular have been devastated by the drought of 2006/2007 and the rigid management practices of the United States Army Corps of Engineers and the US Fish & Wildlife Service.

In the fall of 2006, the communities of W. Georgia and E. Alabama came together in a major fund raising drive spearheaded by the LaGrange/Troup County Chamber of Commerce and the Greater Valley Area Chamber of Commerce. An amazing $268,000 was contributed by businesses and individuals once again demonstrating this area's commitment to West Point Lake, this area's concern for the future of West Point Lake, and this area's recognition of the economic value and economic importance of West Point Lake.

The funds were and are being used to commission an economic impact study on West Point Lake and an environmental impact study on West Point Lake. The firm of Basile, Baumann, Prost, Cole, & Associates, Inc. (BBPC), which was commissioned to do the economic report, is headquartered in Annapolis, Maryland, and enjoys an outstanding national reputation. BBPC was selected over the other firms interviewed because of their credibility and experience; BBPC has conducted similar studies on other Corps' reservoirs and for the Tennessee Valley Authority.

BBPC completed the economic impact study in December of 2007; and I am submitting a copy of this study as a part of my testimony today. Three alternative economic impact analyses were prepared:

- **Alternative 1: Economic impact and value at low water levels of 630 MSL and below (baseline)**
- **Alternative 2: Conservative estimate of economic impact and value at higher water levels in the range of 630 up to 633 MSL**
- **Alternative 3: Moderate estimate of economic impact and value at optimal water levels in the range of 633 up to the full pool level of 635 MSL**

2.

The projected economic impact and value of West Point Lake, at the above three alternatives, is listed below:

- **Alternative 1: $153,795,150.00**
- **Alternative 2: $419,349,599.00** **Plus $265,554,449.00 versus Alternative 1**
- **Alternative 3: $709,765,619.00** **Plus $555,970,469.00 versus Alternative 1**
  Plus $290,416,020.00 versus Alternative 2

We have already heard that West Point Lake was specifically authorized by congress for five purposes and only five purposes: recreation, sport fishing & wildlife development, hydropower, flood control, and navigation. US Army Corps of Engineers' documents state that the initial recreation impact level on West Point Lake is 632.5 MSL. Please recall that one of congress' five, specific authorizations for West Point Lake is recreation. Then note that at no time in 2006, 2007, and the first two months of 2008 (a total of 26 months) has the average monthly lake level at West Point Lake met or exceeded the initial recreation impact level of 632.5 MSL. Speaking candidly, the Corps of Engineers has not been held accountable for their management of West Point Lake as authorized by congress; and their track record over the past 26 months demonstrates a total disregard for the recreation and sport fishing/wildlife development authorizations. We would submit that recreation impact levels and economic impact levels are one and the same.

Basis the just completed economic study by the firm of BBPC, the economic impact of West Point Lake to our area conservatively approaches between $821,524,918.00 and $1,111,940,938 during combined 2006 and 2007 at the documented levels. Low lake levels severely affect visitation to West Point Lake. Visitations were down 100,000 in 2007 vs. 2006; and these same visitations are down 3,699,917 vs. the Corps' analysis which indicates that 6,900,000 visitors is the optimum visitation. At an extremely conservative estimate of $100.00 spent per visitation, our community lost $10,000,000 in 2007 vs. 2006 due to the decline in visitation alone; and the lost economic impact opportunity was $369,991,700 vs. the Corps' optimum visitation numbers. At the risk of stating the obvious, visitation to West Point Lake declines significantly when there is not a dependable lake level; when the lake is unsafe; when people lose access to parks and swimming areas; and when people lose access to the water either via boat or via land! Equally obvious, when visitation declines significantly, the economic value of West Point Lake drops drastically and the negative, economic impact or lost economic opportunity increases substantially!

3.

Having demonstrated the economic impact in general, i.e. the big picture, let's turn to specific examples of the devastating impact on the small businessmen/women. I personally interviewed six different businesses which are "directly" dependent on West Point Lake for their overall success or failure both short term and long term. Thanks to these businessmen/women who have shared their data with me, I have detailed the results below:

- **Business 1: "Revenue was down 75% and my business would have gone south had I not diversified into non, lake-related side businesses."**

- **Business 2: "Tackle sales were down a minimum of 25% and I dropped my bass boat distributorship due to declining sales; on the boat sales side, I was down 100%."**

- **Business 3: "Bait and tackle sales were down 30% speaking conservatively; and we lost our gasoline business due to our inability to compete due to low volume and higher retail prices.**

- **Business 4: "During the six months between September, 2007 and February, 2008, revenues were down $96,000.00 vs. the same period last year. Had our average monthly growth rate of 10% to 20% prior to the drought continued, lost revenues would have exceeded well over $100,000.00. To attempt to minimize the losses, we increased advertising $15,000.00; repairs to damaged docks due to low water conditions totaled $12,000.00; and $3,000.00 in dredging expense was incurred in an attempt to keep our ramp open. Combined impact comes to $126,000.00; and this does not include the loss of three bass tournaments, approximately 550 boats or 1,100 fishermen/women; plus the loss of at least 100 boats in our year end Championship Tournament due to low lake levels and severely, limited access."**

- **Business 5: "Bait and tackle sales are down a minimum of 48%; every credit card is maxed out and every day I am losing money; I had to take an outside job to support my family and tread water long enough to hopefully, somehow, hold onto my store."**

- **Business 6: "When I bought this store 5 years ago, it was a dream come true; I finally owned my own business. The first 3 years were successful as we improved the building and expanded both our products and inventory. Over the past 24 months due to the drought and the low water levels, sales have declined an average of $20,000.00 per month and we lost our gas contract. In an effort to stop the bleeding, we added a kitchen and began selling biscuits, etc. Finally, I had to seek other full**

4.

time employment and leave my wife and/or daughter alone in the store. The store is currently for sale; if it doesn't sell, we will lose it!"

What do the above businesses have in common? All of them were, relatively speaking, successful in their chosen niche until the drought hit and low, unacceptable water levels dragged on for over two years. Each of them went over and above the norm to increase and/or stabilize their revenues in an attempt to save their business and their livelihood. Unfortunately, in some cases, it appears that their efforts, through no fault of their own, will not succeed and their businesses and their dreams will be lost.

Please note that the above economic impact instances do not include the ripple effect throughout our community on restaurants, grocery stores, gas, rentals, home sales, marine sales, etc.

The small businessmen/women who are the backbone of our country are fast becoming the "endangered species"; and no one is protecting them! While West Point Lake was drained, water was sent downstream to protect endangered mussels. We have quantified the economic impact to our community and to several of the small businesses; and I have yet to see the economic benefit or value of the endangered mussels. However, I do favor saving an endangered species if someone can demonstrate their value and/or worth and then prioritize that with the needs of stakeholders. Assuming for the moment that the endangered mussel species are viable long term, why was action not taken to re-locate the mussels to a hatchery or to re-establish them in a like stream or river? In fact, there never was a proactive solution; the response from the Corps of Engineers and the US Fish and Wildlife Service was simply to keep releasing water far in excess of what Mother Nature would have provided and with no consideration for the dire consequences to the small businessmen/women! Apparently, the use of common sense is endangered as well!

In conclusion, we want to see Lake Lanier full as well as West Point Lake and Lake George. The federal reservoirs on the ACF System and the System itself should be managed in a fair and proportionately equal manner; the federal reservoirs should be managed for their authorized purposes; and they should not be managed for unauthorized purposes. We support "percent of storage remaining" as a fair and equitable measurement during times of drought and negative economic impact. We support growth and want to see a strong and vibrant Atlanta metro area as the main economic engine for the state of Georgia. That said, that growth must be smart growth which is well planned and takes into account the finite, limited water supply in the Chattahoochee River and acknowledges the economic needs and right to growth for downstream communities as well.

5.

What we will never support is the transfer of economic wealth from one community to another community using water as currency.

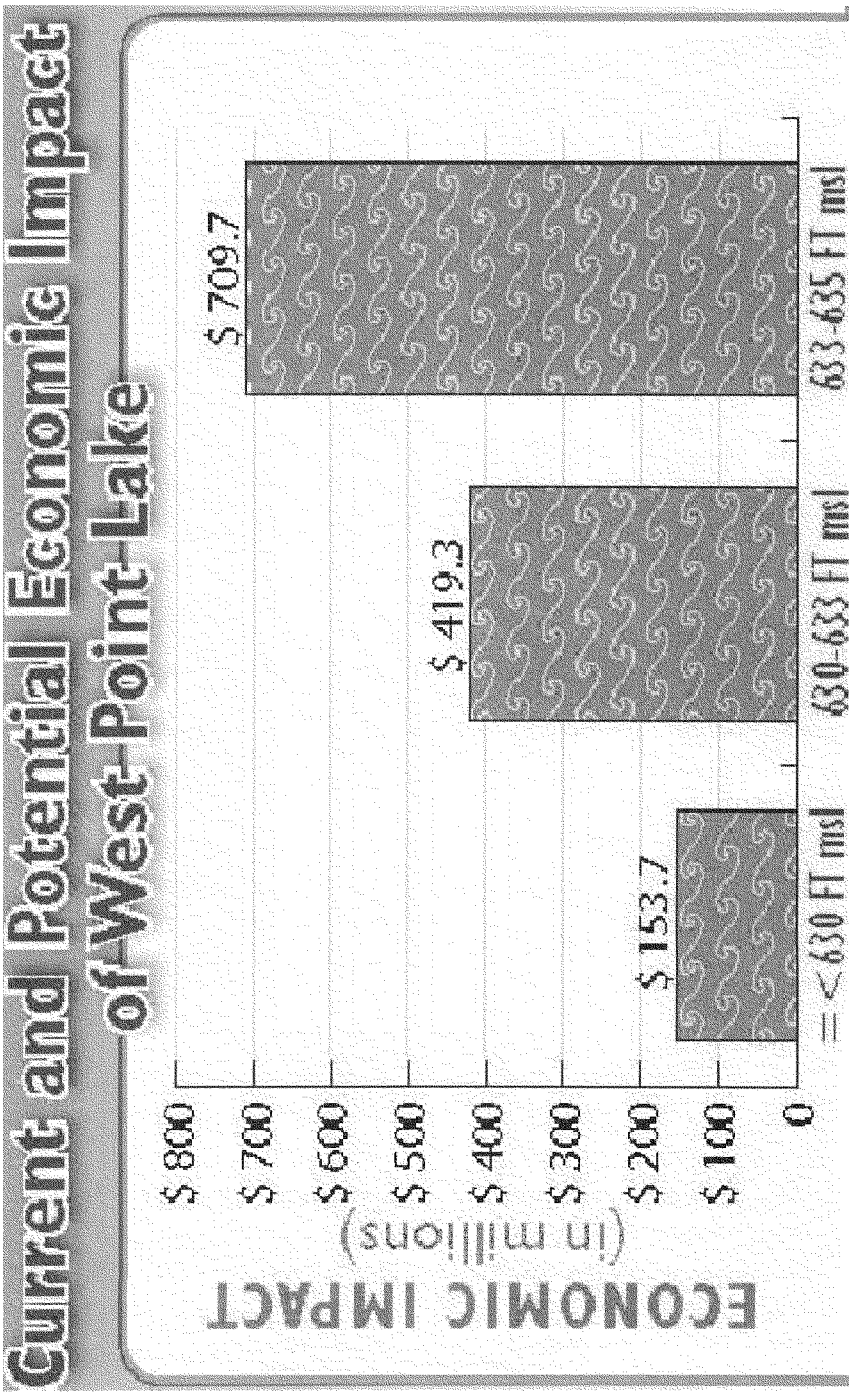
We ask that congress hold the Corps of Engineers accountable to manage West Point Lake as it was authorized so that the lake's economic benefit can be realized. We ask that the new interim operating plan reflect and prioritize the authorized purposes versus the unauthorized needs while recognizing the devastating economic harm done previously and minimizing the negative economic impacts in the future.

Thanks once gain for conducting this hearing in LaGrange and for giving me the opportunity to testify.

Respectfully submitted,

Dick Timmerberg
Executive Director
West Point Lake Coalition

Digital copies of the "Economic Impact of West Point Lake at Various Lake Water Levels" study can be obtained by accessing the site below:
http://ivic02.residentinteractive.com/programs/download.pdf?xinput=25203597 or www.lagrange-ga.org and look for the report under the "documents, maps and forms" tab.


Current and Potential Economic Impact
of West Point Lake
ECONOMIC IMPACT
(in millions)
$ 800
$ 700
$ 600
$ 500
$ 400
$ 300
$ 200
$ 100
0
$ 153.7
$ 419.3
$ 709.7
=< 630 FT msl
630-633 FT msl
633-635 FT msl

March 25, 2008

To: The Committee on Small Business of the United States House of Representatives
From: Mary Kay Woodworth, Executive Director, MALTA

Re: "The Impact of the 2006-2007 Drought on Georgia's Economy"

Georgia's urban agriculture industry represents one of the largest and most successful industries in Georgia, with more than $8 billion in annual sales, 7,000 companies and more than 80,000 employees throughout the state. Urban agriculture is defined as all non-traditional agriculture, and is the second largest industry in the state of Georgia, second to poultry.

The industry includes retail garden centers, floriculturists, turf grass and sod growers, the nursery and horticulture industry, landscape architects, landscape installation and maintenance businesses, irrigation contractors, green wholesalers, florists and golf courses and their related businesses.

Georgia's Environmental Protection Division (EPD) Drought Management Plan uses outdoor watering restrictions as the sole solution to address the drought conditions that have impacted Georgia's exceptional drought. This action has had the effect of imposing severe restrictions on businesses that rely on water for their operation - and in this case, these severe conditions were primarily imposed on a single industry, landscaping and horticulture.

The EDP Drought Management Plan rules and local government's heightened restrictions were exacerbated by the U.S. Army Corps of Engineers' increased downstream releases from Lake Lanier in late summer, 2007. The increased releases resulted in Governor Perdue's mandate to water providers to release withdrawals by 10%. This mandate, along with EPD's Level 4 Drought Declaration on September 28, 2007, had an immediate and dramatic devastating impact on the industry.

Due to the State's actions and the additional whittling away at the exemptions by the local municipalities, there was little to no fall planting season in Georgia and the financial impact was immediately felt.

According to an industry survey dated February 2008, there have been more than 35,000 layoffs. Between June-December 2007 losses of over $262 million per month

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are directly attributed to drought and the ensuing water restrictions - and at this rate an annual loss of $3.15 billion loss is predicted. Several prominent businesses, including Pike Family Nursery, have filed for bankruptcy, been put to auction, closed temporarily or permanently or are reviewing their options. Most of this could have been avoided had the state developed a drought management plan that didn't place the entire burden of water conservation on outdoor watering.

Georgia's urban agriculture industry will continue to lose profits and employees if drought conditions remain over the state this year, according to a University of Georgia survey. "In an industry with a median income of $800,000 per company, many companies won't be able to sustain losses of that magnitude," UGA's Dr. Ellen Bauske said. "We can expect more news of bankruptcies, business failures and liquidation of company assets if the situation continues."

Based on the survey, Bauske and her colleagues project devastating losses in the coming year. "A calculated loss of $260 million per month can be contributed to the drought and water restrictions imposed on the industry," she said. "If the current drought conditions continue, the results could grow to an annual loss of $3.15 billion and 30,000 additional employees."[1]

Governor Perdue has stated that outdoor water use is "inconsequential" to the state's water picture. Dr. Carol Couch, EPD Director agrees: "We are not here because we consumed our way into this drought, as some would suggest."

- Watering bans are little more than an attempt by water authorities to divert attention from the failure to adequately plan for inevitable drought events. Droughts should never be a surprise to water planners. They are a natural element in environmental life cycles and should be factored into all water management plans. If water is managed properly, a "water crisis" should be extremely rare.

- Using water restrictions and conservation alone ignore the root of the problem - rather than address the problem with a comprehensive water use plan that tackles the issues of water supply and use. EPD and the authority that is given to local governments and utilities to ban outdoor water use create the impression that they are effectively dealing with the larger issue. For most water authorities, this is the most visible action they can take in the public eye to communicate a "water crisis."

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[1] E. Bauske, W. Florkowski, G. Landry. 2008. Layoffs Increase and Losses Accelerate in Response to the Drought.
http://apps.caes.uga.edu/urbanag/pubs/economicDroughtImpact.pdf

- Finally, water authorities are not proposing or taking any other restrictive action on any other commercial, industrial, or residential use. This is evidence that these watering bans are little more than window dressing for water planning failures.

The urbanization and suburbanization of Georgia has been enormous, providing jobs, economic opportunities and stability for millions of Georgians, but it has also brought problems. Urbanization decreases water quality and increases water use. About one-half of the land cleared or disturbed for development is covered by impervious surfaces such as roads, roofs, and parking lots and is a contributor to the current water crisis. Urban agriculture has become the best method for addressing these problems.

Healthy and properly maintained landscapes are critical to water management and storage in an urban environment. Lawns, ground covers, vegetation and even hardscapes are crucial to managing ground water. Urban agriculture is one of the few industries in Georgia that mitigates the environmental impact of development and creates a sustainable quality of life for people, wildlife and natural systems.

When drought conditions persisted last spring, Georgians responded by conserving water. We were told that by saving water we would be saving money as well. Recent news articles in the Atlanta Journal Constitution report that local water authorities must now increase fees to make up for revenue lost from reductions in water sold to their customers during this drought period.

The drought has cost Georgians billions of dollars in economic loss and now water conservation measures will cost us millions more because local water "professionals" failed to plan ahead.

Only in a government business plan can you have a decline in revenues and maintain or grow your overhead while not going out of business. These locally run bureaucracies now insult the citizens of Georgia by raising their fees. While Georgia endures the drought, this is the unfathomable justification for local water providers that have had their wells of public trust run totally dry.

The urban agriculture industry is committed to being an active participant in helping Georgia through its current water crisis. We will continue to work with the state, municipalities and local water authorities as they search for solutions to developing problems. But we must insist that the state address the lack of water infrastructure, including water storage needs, so that it won't become necessary to address a future water crisis on the back of just one industry. We hope that we have your support in our mission.

Testimony of

Robert Nichols

To the Committee on Small Business of the United States House of Representatives
In a hearing entitled:

"The Impact of the 2006-2007 Drought on Georgia's Economy"

March 25, 2008

Thank you for the opportunity to speak to you today on behalf of the marina business and for all the small business owners in the West Georgia, East Alabama area. Marinas are not the only business affected by lake levels in West Point Lake; motels, gas stations, convenience stores, fishing guides, bait and tackle shops, restaurants, and boat dealers all cater to and rely on tourist traffic generated by West Point Lake.

West Point Lake consists of 26,000 acres of water, 525 miles of shoreline, and offers 4 county parks, 25 Corp operated parks, 7 campgrounds, 2 commercial marinas, as well as 40,000 acres of wildlife management areas. Several of the purposes authorized by Congress are sport fishing, wildlife development, and public recreation. In my opinion, none of these purposes have been fulfilled.

The water levels must be maintained in the lake so the public can use it safely. Let's not forget that Corp funding is based upon, to some degree, traffic count and visitation. I would like to thank those of you in Congress who have supported HR4304, which allows our Corp of Engineers to retain revenues generated by our public parks and campgrounds. Particularly, I would like to thank Congressman Lynn Westmoreland who is a co-sponsor of this bill. However, no amount of public facilities can truly be justified when water levels have reached unsafe conditions for the boating public.

Boat dealers that I have spoken with have reported decreased sales of 40-85% from previous years. However, in our area alone, income from repairing boats is actually up 30-40%, all of which can be attributed to damages occurring while boating on West Point Lake. Bait and tackle stores located convenient to the lake, but not necessarily in high traffic areas, have seen sales decrease by 50% or more in the past six months.

From my own experience at the marina, 2007 started as a break through year, with January through July revenues 20-25% ahead of the previous year. Despite fluctuating lake levels, we were still above normal winter pool, but the concern about water levels we had been expressing for the past year had become a reality and fueled somewhat by media coverage. Revenues for August were slightly lower, but I don't think anyone quite anticipated that Labor Day would be the end of our season. September through December of 2007 store sales were 50% off, lodging revenues were off 35%, boat rentals were down 60%, and damages to our boats due to low water exceeded 5,000 dollars. The odd thing is that our wet slip revenues were down only 3%. However, I had a dozen boats stuck in the mud, and many others that would have left if not for inaccessible ramps. The boat ramps at Southern Harbor were unusable beginning October, despite two attempts to remove sediment caused by erosion of exposed shorelines. Our last two fishing tournaments of the year had to launch at Rocky Point Park, one of the few remaining assessable boat ramps at the time; even then, navigation to the main channel was hazardous. As the water level decreased, the marina spent over 80,000 dollars in dock extensions, electrical connections, and additions to our sewer pump-out facilities. Constant repairs and adjustments have had to be made as dock floatation settled into the mud. These were out of pocket expenses. Lending institutions no longer make decisions on profit and loss statements or track record. Marinas are classified as high risk because of unpredictable water levels.

Another impact felt this fall was the cancellation of several large fishing tournaments. A typical 200 boat tournament made up of 400 fisherman, and 100+ family, guest, and staff has a visitor impact of 160,000-170,000 dollars in two days. When

applied with a 2.5 turn over rate the total economic impact exceeds 400,000 dollars. The Georgia State Championship, a tournament held every year in the fall, consistently draws 300+ boats. This year, it drew only a few over 200 participants. Couple this with another major tournament consisting of over 300 boats that eliminated West Point Lake from any consideration this past fall and the negative economic impact to our community is well over one-million dollars.

With regard to tourism, the governor of Georgia has announced a new "Go Fish Georgia" program bringing excitement to a lot of us. The program is intended to promote fishing and tourism and to bring people in from all over the Southeast. The problem with "Go Fish Georgia" is that we realize it may just be a card game that we're playing. The deck is stacked against us by out dated operating plans and lake levels we can't depend on. Fishermen aren't going to come here and risk damage to 50,000 dollar bass boats.

You have asked me to speak on my perspective and those of my business associates as to the economic impact of the drought. I'm here to say it is my opinion and of those I have talked with that the drought is being used as an excuse for an ineffective and out dated water control plan. We understand we have been experiencing a drought, we have had to deal with droughts over the last 35 years. West Point Lake has been the work horse for the Chattahoochee River basin during all of our so called minor droughts. The West Point Lake Advisory Committee has been addressing the economic impact of lake fluctuations in West Point Lake, including the predicted drought conditions we are now experiencing. This information was conveyed to state and federal agencies over a year ago. It wasn't until Atlanta was threatened with the possibility of running out of drinking water did our concerns become front page news.

The governor has mandated a 10% reduction on all water use across the state. For those of us who live outside the doughnut, so to speak, we don't have a problem with reducing water usage and trying to conserve more, but what we don't hear about are restrictions in development and growth in the Atlanta market. So, in simple man's math, it appears that our 10% reduction is just allowing the growth in Atlanta to continue and not necessarily doing a whole lot to put water back in our lakes. Unlike Atlanta, all we have asked for is a shared sacrifice during times of drought.

As for growth, the state of Georgia has invested 500 million dollars to bring an automobile plant to West Georgia. This is much needed in an area that has been historically dependant on the textile industry. Besides financial incentive, companies today value the quality of life offered to its employees. West Point Lake is a major factor in their decisions. In fact, one Kia executive, new to our area ask me, "Is your lake broke?" and the only response I could come up with was, "No sir, our lake is not broke, but the system that manages it is."

As for the system I refer to, I'm not sure who's in charge. The Corp of Engineers points the finger at the Fish and Wild Life Agency and vice-versa, both referring to various laws and regulations such as the Endangered Species Act, flood control legislation, and so called rule curves. It appears to me that what we have done is pass so many laws and create so many bureaucracies that common sense has become extinct. The system needs to be simplified, agencies need to work together so that there is accountability within the decision making process. There needs to be flexibility to adapt to the ever changing conditions.

In closing, I don't mind competition. We compete with the Wal Marts, Bass Pro Shops and others who by their sheer size can sell for less than a small business can buy most goods for. The one advantage we have is that you can't get there by boat. Please don't take this advantage away.

Testimony of

Joe Maltese
Assistant to the City Manager, Special Projects
City of LaGrange, GA

To the Committee on Small Business of the United States House of Representatives
In a hearing entitled:

"The Impact of the 2006-2007 Drought on Georgia's Economy"

March 25, 2008

Allow me to begin by thanking the Committee, its members, and the Congressional staff that worked so hard to arrange and prepare for this hearing in LaGrange. It is an honor for this community to have this body here to listen to our concerns and to hear testimony about the drought and related issues associated with the ACF River basin.

Let me also note we have great appreciation and admiration for those that serve the United States Army Corps of Engineers. While we have significant disagreements with them from time to time over operations along the river, they must always know that we are proud of their service to this great nation. We also are honored to have US Fish and Wildlife Service regional representatives participate in these hearings today. However, we do NOT agree with or appreciate the approach of these federal agencies in managing this river system, especially West Point Lake.

In 1962 the United States Congress authorized the Army Corps of Engineers to build a reservoir above West Point, Georgia for 5 specific purposes:

- Sport Fishing and Wildlife Development
- Flood Control
- Hydropower
- General Recreation
- Navigation

A benefit to cost ratio and financial analysis was completed by the Corps attributing values to justify the development of a lake at West Point. This analysis revealed, that when combined, hydropower, recreation, and sport fishing and wildlife development, yielded 79% of the benefit to cost for the project. To our knowledge, West Point Lake was the first multi purpose lake authorized by Congress carrying "general recreation" as an authorized purpose. Yet we see these three authorized uses are sacrificed in operations by the Corps to meet other demands in the basin.

The authorized uses of hydropower, sport fishing and wildlife development, and recreation seem to fit hand in hand in the use of reservoirs. Hydropower interests generally like a full pool levels so they can have access to peaking power to meet demands. Empty lakes mean the battery is also empty as the water doesn't exist to generate electricity. Recreation, along with sport fishing and wildlife development, also have the same need- stable, reliable and full pools of water to provide for obstruction free boating safety, usable lake surface area, access to shoreline recreational facilities, and a viable habitat for fish and wildlife. Yet the operations by the Corps of West Point Lake have been almost the opposite. Consistently low water levels have plagued this lake over its entire history as the Corps has utilized the resource for other needs, some of which were not the original intent of Congress.

As the lake was built, the Corps immediately established and has historically utilized a system of very aggressive rule curves and action zones to guide their management of water elevations at West Point Lake. In doing so, the Corps set aside massive amounts of storage and attributed that space for other purposes and demands elsewhere on the river

system. This unused capacity leaves the lake at very low elevations and below the initial recreational impact level for much of the year. Yes, we agree it is essential that the Corps must provide for flood control, but they fail to utilize the full capabilities of the lake. West Point has flood storage above the normal pool of 635, but they have rarely used that additional capacity. Their 1981 Master Plan reveals that the maximum design pool elevation is 646.20 m.s.l.- a full 11 feet above the normal pool of 635 m.s.l[1]. This additional storage has never been fully utilized for flood control - clearly a wasted resource.

The rule curve system in place today for West Point is the harshest of any lake on the entire ACF system with typical variance of at least 7 feet between winter and summer. That's under the best of conditions. Based on information provided to us by the Corps in 2006 (attached chart), before the worst part of the drought, it appears that using historic averages, West Point Lake has only been above its initial recreational impact level of 632.5 m.s.l about 20 percent of the time, which is the level at which recreation begins to be impaired. At the time when the drought was upon us, the Corps failed to utilize valuable capacity to store water in the lake. This past summer we saw the virtual destruction of the lake when it was dropped 13 feet from its normal pool to 622 m.s.l., only 2 feet above its dead pool. What we have seen demonstrated using their current rule curve and action zone system is that the Corps won't store water, particularly when it is so desperately needed to meet the needs of mankind.

Over the past 2 years, we watched as the Corps systematically drained the entire basin during the onslaught of the worst drought we've ever seen. In the springtime, when West Point Lake needed to recharge with nature's rains, the Corps sent vast amounts of water south downstream to the Gulf of Mexico, with Fish and Wildlife Services blessing, and drained the lakes so sturgeon could spawn on the Apalachicola River at a time when lakes needed to refill. Please remember the sturgeon and mussels existed long before there were any federal lakes on the Chattahoochee, and to presume they can't exist after 50 years of living in a regulated river system is at best highly questionable.

The drought worsened, but the Corps continued to drain first Lake Walter F. George, then West Point Lake, and finally Lake Lanier throughout the spring and summer of 2007. The Corps maintains they have always had a flow of 5,000 CFS or greater from Jim Woodruff Lock and dam to the Apalachicola. That may be true of the Corps' operations using water stored in upstream reservoirs. But what mother nature offers in support of that flow has been much less during the drought. I think we all know that mother nature doesn't offer guarantees in writing with a "5" followed by 3 zeros at a given point on a river, especially when the total inflow into the ACF basin above that point is almost half that amount. The Corps deliberately ignored that nature was only providing between 2,000 and 3,000 CFS naturally in the river system while they offered 5,000 CFS and more to the Apalachicola River under the IOP. So the Corps made up their guaranteed

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[1] *Design Memorandum 37, West Point Lake, Master Plan*, Savannah District USACE, April 1981, photocopy, p.1

flow from the federal lakes that weren't designed or authorized to provide flows for thermo electric power plants, sturgeon, or mussels.

To make matters worse, instead of shutting the Jim Woodruff Dam off immediately after providing a flow for the Apalachicola, the Corps, with a Fish and Wildlife Service blessing, continued to draw down from the Federal lakes using a gradual "ramp down" rate that lasted days at the end of a discharge cycle. It would seem far more logical to turn the faucet off when you're done with it rather than to keep it running. But the "so called" IOP (Interim Operating Plan) provided for this new concept - a concept that we would scold our children for if we saw them using this practice at home. In the mean time, the three northern federal lakes - the source of the water - continued to drain, and disappeared while the drought worsened. This ramp down rate concept of the IOP was supposedly to protect mussels that might be stranded on the banks of the river.

Our frustration as a community is that the uses authorized for West Point Lake, recreation, hydropower, and sport fishing and wildlife development, that would yield the most economic benefit, and were associated with the highest level of expectation in our area based on the commitments made by the government, seem largely ignored. In fact our community often wonders how our lake continues to be misused. We see a Corps of Engineers overly concerned about the flow needs of thermo electric power generation for Plant Scholz and Plant Farley, industrial needs, waste assimilation flows and fish and wildlife to our south on the river. Remember, Plant Scholz on the Apalachicola River existed long before the advent of West Point Lake. Plant Farley could have been (and still could be) designed so as to operate on the lowest possible natural yield of the river and not require guaranteed flow augmentation from lakes to the north. Last summer the Corps reminded area stakeholders of the need to meet these downstream flows. Sometimes we'd hear the need was for required flows on the Apalachicola for Endangered species, other times we heard that the flows were required to support these so called essential thermo electric facilities, and at other times we'd hear downstream flows were needed for waste assimilation. All we knew was that West Point Lake and Lake Lanier disappeared, and Southern Company's Georgia Power lakes on the river within 10 miles of West Point remained full all summer long.

Our feeling is that if Southern Company operations on the lower part of the river need water for thermo electric power generation, then let them use the water stored in their own lakes to meet that need, and leave the federal lakes alone. We can't find anywhere where Congress said West Point Lake was built to provide flows to support Southern Company operations or their stockholders. If species on any segment of the river need water, especially during drought conditions, then allow them access only to the yield offering flows that would be provided by nature. Let's not provide artificially high flows guaranteed and augmented by the Corps of Engineers that are two times the natural yield of the river in drought conditions.

Congress made clear that the federal lakes were designed and to be utilized for hydropower, not thermo electric power generation, among other uses. Hydropower as a source of energy is compatible with other uses and represents an important mix in the

source of energy for many cities and electric co-ops as an electric source. LaGrange is one of those communities that rely on hydropower generation in its mix of generation resources. Because of the way the Corps operated river systems in the south during the drought, we lost access to over 1 million kilowatt hours per month of energy from hydropower resources over the past two years. Fortunately, we were able to make that up from other sources. But those sources are less environmentally friendly than hydropower. The cost paid for that replacement energy was far higher, and cost this community over $50,000 per month. Ultimately that cost is born by residential, small business, institutional and industrial customers in our community. Draining the river system for downstream endangered species or thermo electric facilities owned by private industries damages small communities along the river like LaGrange.

Any thought of moving waters from federal lakes downstream for heat or waste assimilation is another concern. Flow augmentation for such needs downstream activities is not listed as an authorized use for West Point Lake waters. Taking valuable water from federal lakes to dilute waters for communities and industries over and above the natural lowest flow of the river is simply the wrong thing to do, especially in the middle of a drought. Our society has the technological capabilities to clean the wastewater we use better than when we withdraw it from a source. There are ways to stabilize temperature and to treat wastewater without diluting it with the limited stored water we have available. Downstream communities and industries that want to avoid the cost of cleaning up their waste treatment operations should be told to take actions to improve their systems to eliminate any demand for additional flows from federal lakes. When extra water is taken from the federal lakes for such uses, our government is simply taking the wealth and resources that were committed to our community in the form of water in a lake, and then transferring it to others downstream who want to avoid spending money to properly treat their wastewater. We'd hope our colleagues at the Corps realize they should not provide water for downstream waste assimilation demands in excess of what the lowest natural yield of the river is at a given point. If this is happening we believe it should be stopped. If it has not started yet, it must be prevented from happening.

We are also concerned about the myopic approach to the attention given to aquatic life in the ACF basin. We challenge the US Fish and Wildlife service to show us the same intensity of scientific study on the fishery and habitat of the West Point Lake region as they have on the Apalachicola River, much less provide upstream stakeholders comfort level as it relates to the adequacy of the science justifying their actions on the Apalachicola. If the US Fish and Wildlife Service is so concerned, then show us the alternative actions taken to protect sturgeon and mussels rather than destroy a river basin by draining it during a drought.

Under the IOP and EDO (Extreme Drought Operations) plans used by the Corps in 2007, we saw significant problems emerge with blue green algae in West Point Lake. While this phenomenon is typical of southern lakes in the summer, it can be controlled by managing water resources in the basin with closer attention to water quality issues. LaGrange system users faced unpleasant odors and aesthetic problems in their treated water in the late summer as lake water diminished under the IOP. More inflow from

upstream lakes could have helped avert this situation and brought better water quality for West Point Lake and the citizens and businesses that rely on the lake as their source of water.

As lake water diminished throughout the summer of 2007, and the lake approached the 620 m.s.l. level, our city became concerned over the Corps intentions and the ability of the lake to sustain human needs in the West Georgia area served by the LaGrange water system. Our water intakes must be kept at usable levels, yet we sense more concern by our government for downstream fish and wildlife needs than we sense for human needs on the river.

Local businesses have been impacted by reduced water levels at Corps reservoirs and the drought. This past year the state of Georgia imposed significant water conservation restrictions on water suppliers like the City of LaGrange and its customers. Probably the most serious impact to business from the conservation efforts were the restrictions on the landscape industry and increased water rates. Institutional, business and residential landscapes and plant material took the brunt of the damage. Yards, trees and shrubs were seriously injured and needed the remedy of water that could have been supplied by the City. The restrictions prohibited watering and nursery and landscape businesses were seriously impacted as a result of the limits placed on watering. We have been told of local landscapers that have had difficulty and experienced reduced revenues and increased costs. It was very difficult for local public officials to justify conserving water to reduce water withdrawals from West Point Lake, just so the Corps could take that water for unauthorized purposes then drain it into the Gulf of Mexico.

This also placed significant additional financial risk on the City's citizens. Our water system is financed through the issuance of tax exempt municipal revenue bonds. The covenants associated with the bond issues that finance the water system require that certain amounts of revenue must be generated, and a multiplier is placed on top of that to assure there is adequate revenue in place to pay for the systems operations and the debt. If enough water is not sold to cover these obligations, the city must then require customers to pay more- for less water used- to satisfy the bond covenants. This impacts all system customers. The ten percent reduction required by the state of Georgia will require the city to bill existing customers and existing $1.5 million dollars per year over their existing payments.

When West Point was filled and began operations in 1974, the citizens that rely on West Point Lake took the federal government at its word. Remember, West Point Lake was sold and promised to the community as a recreational lake. Yet the Corps decided to lessen the relevance of recreational use and sport fishing and wildlife development and make West Point what they term the "workhorse" of the basin. Instead of generating hydropower needed by small towns and electric co-ops, the Corps addresses other concerns in the basin. Rather than fulfill the recreational authorization promised to the region, the Corps seems to manage the lake so as to guarantee flows for privately owned thermo electric power producers, downstream industries, cities that need water to dilute their waste stream, and for fish and wildlife concerns on the Apalachicola River.

In 1981, the Corps prepared and approved the Master Plan for West Point Lake. The message from the report was clear. The concept of West Point Lake being used for recreational purposes was to be far more than a pipe dream. *Design Memorandum 37* laid out a very clear plan for the long term development of West Point Lake as a recreational facility.

The Corps, with Congressional mandate, acquired 5,009 acres specifically for 43 public use recreational areas and 6,386 acres were acquired for a public wildlife and game management area.[2] The Corps, in the same document recognized, "The Lake contains 25,900 acres at normal recreational pool, elevation 635 m.s.l."[3] This same analysis indicates that "...the 6,900,000 visitors projected for 1985 is the optimum visitation." [4]

On March 4, 2008 the Corps reported in its Environmental Assessment supporting the reduction in flow at Peachtree Creek from 750 CFS to 650 CFS, that annual park visitation at West Point Lake was:

- 2,620,642 for 2002
- 2,691,920 for 2003
- 2,947,170 for 2004
- 3,199,052 for 2005
- 3,300,836 for 2006
- 3,200,083 for 2007-

a drop of over 100,000 visits for this past year, and 3,699,917 fewer visits than what the Corps thought was optimal for 1985[5]. I think it's safe to say that missing water creating low lake levels is the major contributing factor to the problem of diminishing visits and a failure to launch the anticipated recreational visits listed in the report.

This past year, the Chambers of Commerce, citizens, businesses, industries and local governments of west Georgia and east Alabama joined together to commission an in depth economic study and environmental assessment of the West Point lake project. The environmental study is ongoing. The economic study is complete and revealed rather stunning information. The current approach to operations by the Corps with consistently low lake levels, yields an economic contribution to the local economy of about $125,000,000. If the lake was managed with a consistently higher and more stable pool level at or above the initial recreational impact level of 632.5 m.s.l., the potential

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[2] *Design Memorandum 37, West Point Lake, Master Plan*, Savannah District USACE, April 1981, photocopy, P. 10,

[3] Ibid.

[4] Ibid.

[5] *Environmental Assessment, Georgia Environmental Protection Division Proposal for a temporary Reduced minimum Flow requirement at the Chattahoochee River at Peachtree Creek for Drought Contingency Water Management Operation in the ACF River basin and Temporary Waiver from ACF Water Control Plan,* prepared by U.S. Army Corps of Engineers, Mobile District, Planning and Environmental Division, Environment and Resource Branch, Inland Environment Team, p. EA-17

economic impact could yield $710,000,000 a year to the west Georgia and east Alabama economies.

Remember that the Corps of Engineers initially conceived and planned for a West Point Lake that was focused on the recreational values approved by Congress. Their Master Plan made clear the purpose for this lake was as a demonstration project for recreational purposes.[6] So if Congress said to use this lake for recreation, if the Corps agrees, and the market potential exists for a far greater fulfillment of a recreational use, one must ask what happened to the water and why?

This year we saw an effort by the Corps to be more prudent with the storage capabilities and resources of West Point Lake. General Schroedel issued a variance this spring that allowed for the storage of additional waters in the project by increasing storage which raised pool elevations. We appreciate and commend the General's approach to managing this resource and hope the Corps will continue to utilize the West Point project in a more practical manner such as this, and avoid future activities that overstress the reservoir.

Somehow this lake was taken away from us. We think we know where that water is going and who is getting it. We beg that our Congress intervene and assure that West Point Lake is returned to the hundreds of thousands of citizens and businesses in the growing west Georgia and east Alabama area and that the promise made for a recreational lake to the citizens of this area is fulfilled. Please see that the Corps stops using West Point as their "workhorse lake" and that those responsible for the management of this lake return it to its authorized uses and sees that the mandate issued by Congress for its development is fulfilled.

Specifically, Congress can help with several actions:

- Compel the Corps to revise the rule curves on West Point Lake to make them more reasonable and limited in scope and magnitude to maintain a lake elevation of not less than 632.5, except in the direst emergency.
- Instruct the Corps to limit the uses of West Point Lake specifically to the authorized purposes set by Congress. In doing so, these uses should relate to the benefit to costs associated with the lake.
- Bring accountability to the federal agencies involved with management of federal lakes. The Fish and Wildlife Service should only institute actions under the Endangered Species Act when they have sound validated science that is beyond question, and then actions related to endangered species should explore a wide range of alternatives that do not adversely impact mankind's use of resources.
- Compel the Corps to operate the lakes of the basin in concert and not sequentially draining them one after another. The current practice extends damage to the southern lakes of the ACF longer. Operating the lakes in balance using

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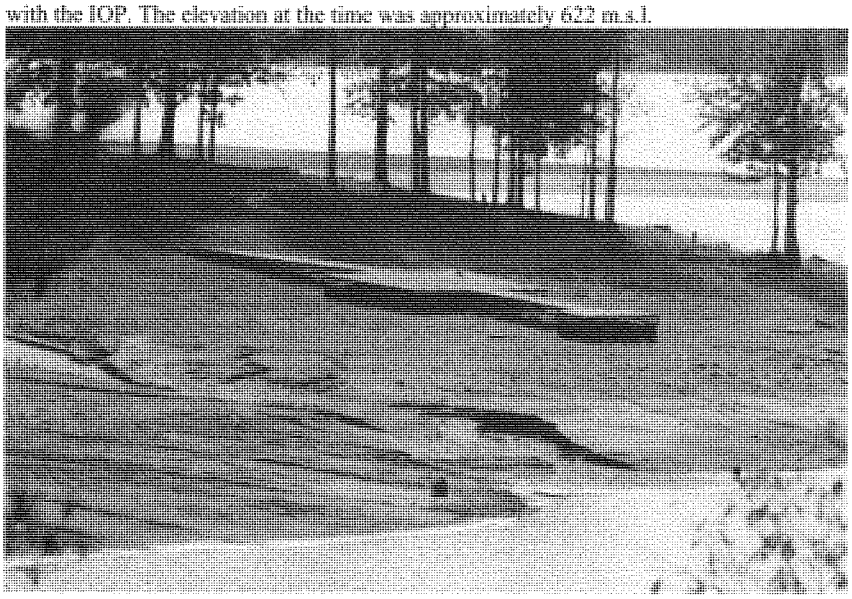
[6] *Design Memorandum 37, West Point Lake, Master Plan*, Savannah District USACE, April 1981, photocopy, p. 2

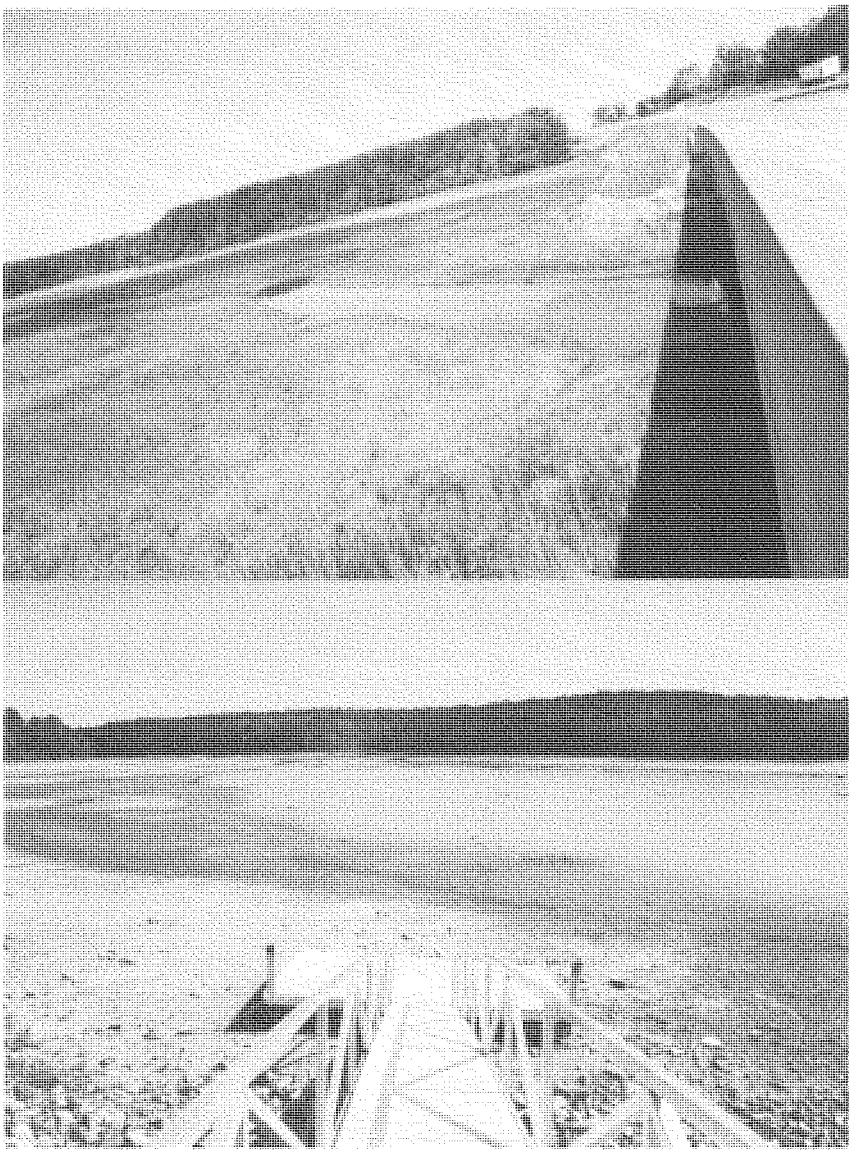
percentage of conservation storage remaining as an operating benchmark is a far more fair and equitable approach to stakeholders throughout the basin.

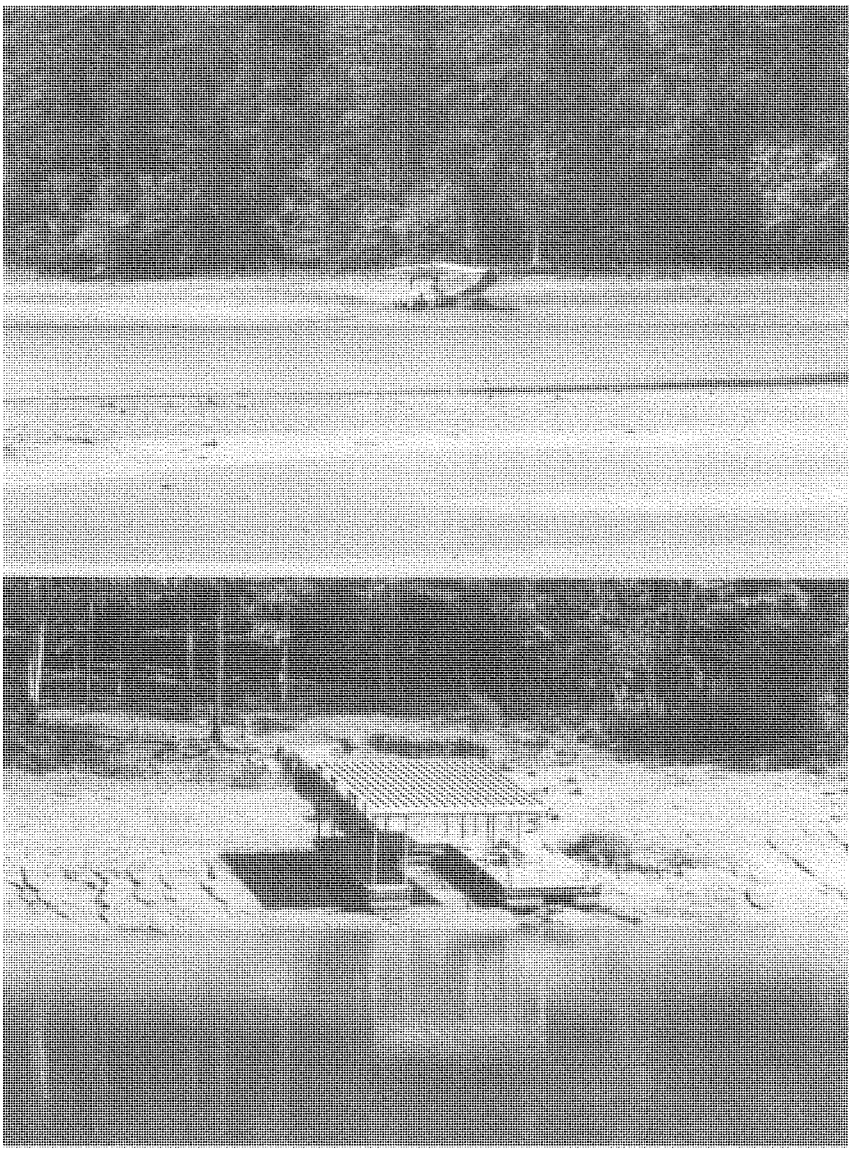
- Compel the Corps to study and recognize water quality impacts associated with their operations. The blue green algae blooms on West Point could have been mitigated this past year by providing more inflow into West Point at the time they were draining the lake.
- Find ways to eliminate the use of water in federal reservoirs for waste assimilation needs for downstream interests. Compel downstream interests to clean up their operations so such flows are never needed.
- When downstream interests demand excessive flows from upstream lakes simply to provide a river elevation for their water intakes, the government should compel that user to modify the design of their intakes to utilize water at levels based on the lowest possible natural flow of the river.

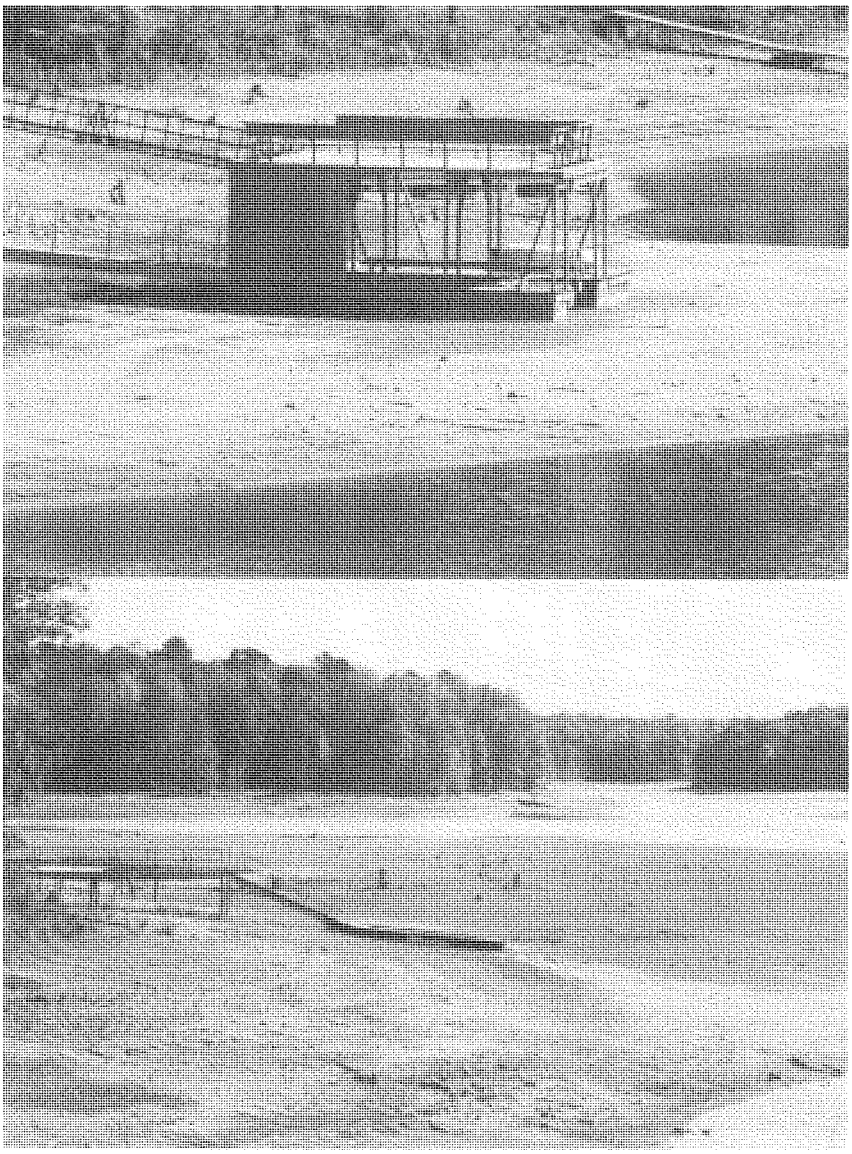
On behalf of the City of LaGrange, GA, its citizens, businesses and institutions; and the thousands of stakeholders surrounding West Point Lake in east Alabama and west Georgia; we ask the Committee to please accept our profound appreciation for considering these issues and for the honor bestowed upon us by holding this hearing in LaGrange, GA.

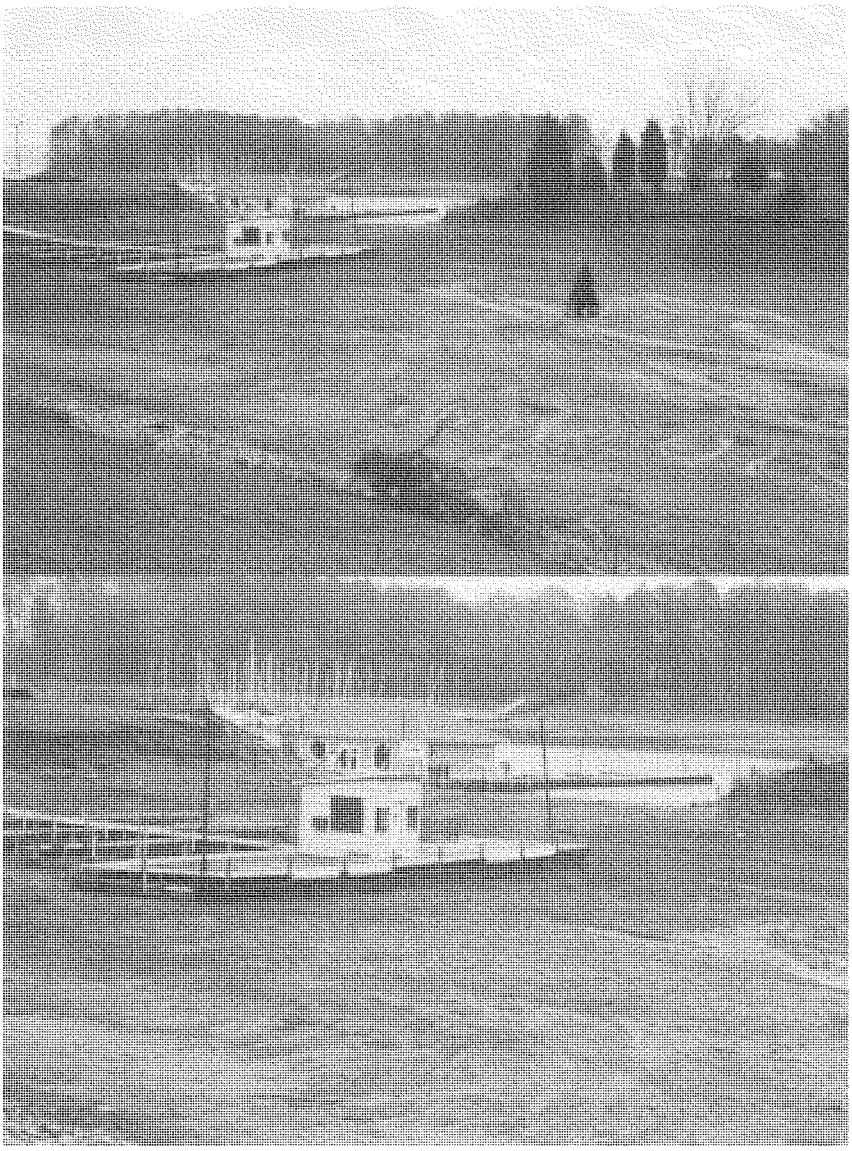
Note: Included with this testimony are numerous pictures of the West Point Lake project during the fall of 2007 when West Point Lake was under the most severe stress associated with the IOP. The elevation at the time was approximately 622 m.s.l.

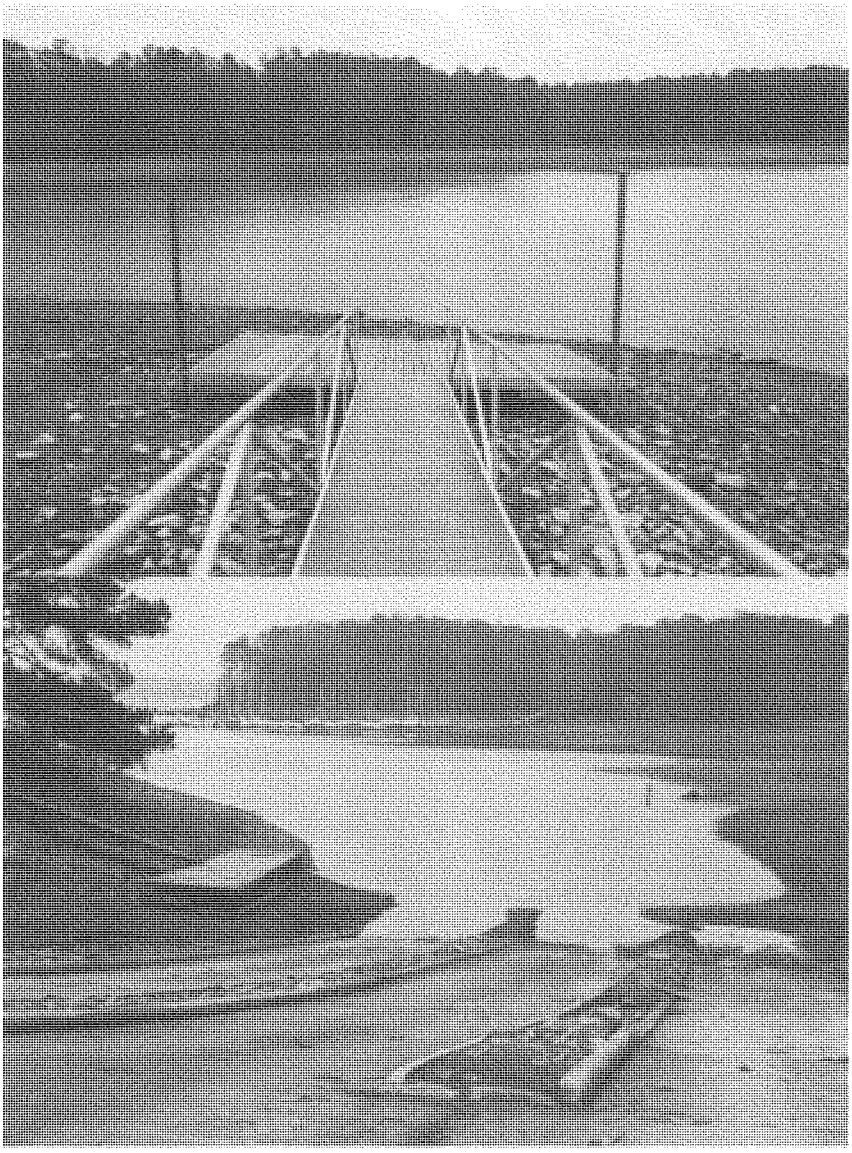




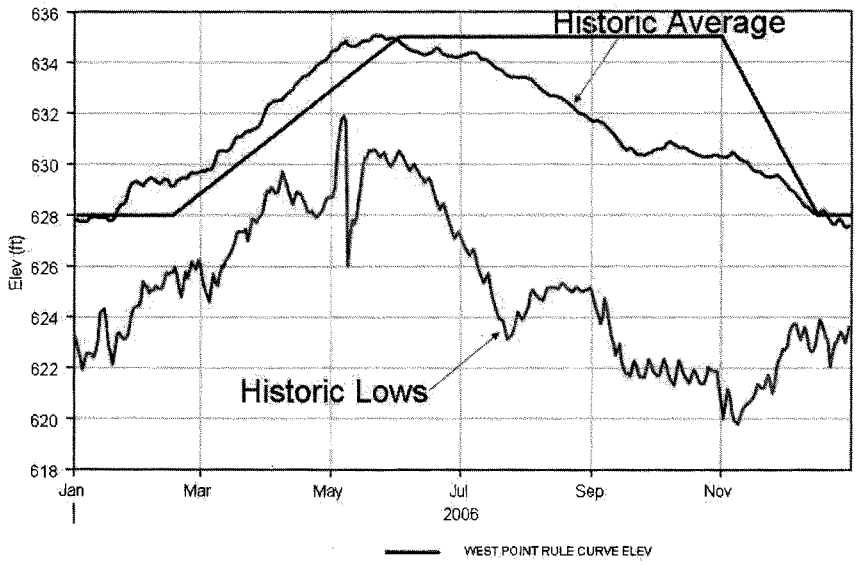








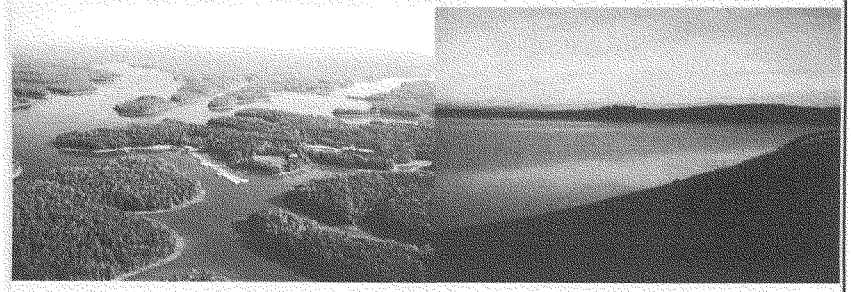
West Point Updated



Economic Impact of West Point Lake

At

Various Lake Water Levels



Prepared by:

bbpc Basile Baumann Prost Cole & Associates, Inc. (BBPC)

Prepared for:

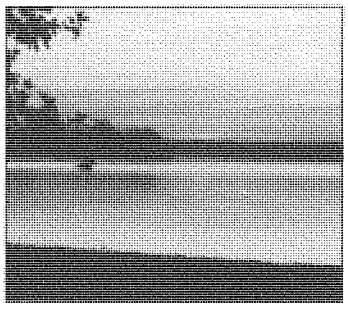
City of LaGrange, GA and local stakeholders

December 15, 2007

Table of Contents

I. INTRODUCTION

A. Background



This study was commissioned by the City of LaGrange, Georgia, Troup County, LaGrange-Troup County Chamber of Commerce and other significant east Alabama/west Georgia stakeholders. The analyses were also prepared in partnership with the Valley Chamber of Commerce and the West Point Lake Coalition, a non-profit, non partisan group of area residents dedicated to the protection and promotion of West Point Lake. All of these entities are interested in maintaining stable and high water levels at full pool for recreational use at West Point Lake.

This analysis compares the total economic impact of West Point Lake at current depressed water levels, with the total potential economic impact of West Point Lake if water levels were to increase to specific levels all-year round. Much information was gained from researching past studies and conducting local interviews (see ***Appendix A*** for a list of stakeholders interviewed).

Estimates of economic impact and economic value associated with an increase in water levels are presented. These estimates capture the way in which spending ripples through the economy to support job and income creation.

The study provides estimates of net economic impact, i.e., the jobs and income that would accrue to the region from local and nonresident spending should lake levels be maintained all year round at or near 635 feet above mean sea level (msl), which represents the lake's "Normal Summer Level", according to the US Army Corps of Engineers (USACE or Corps), who constructed and manages this lake. Also presented are estimates of gross economic impact, which reflect changes in spending from a change in lake levels.

B. Purpose of Study

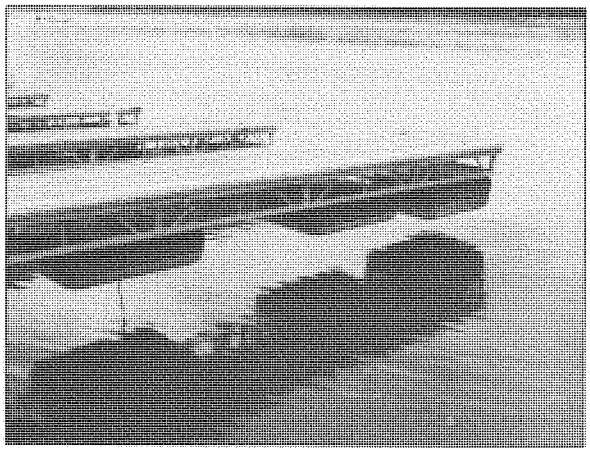
West Point Lake has been plagued by low water levels in recent years. As a man-made reservoir, water levels are controllable. The USACE manages the water levels and releases water at the dam site.

The chart below presented to City officials in November 2006 depicts the historical water levels as compared to the current USACE operating plan water

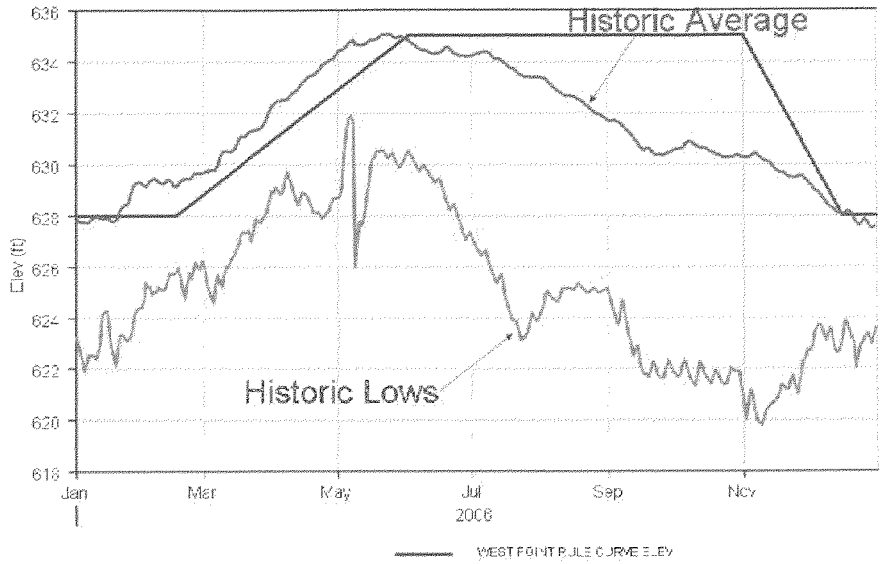
levels at West Point Lake. Water levels depicted in the red and green lines (historic highs and lows) as compared to blue line (USACE operating plan) explain that since about May 2006 the USACE has ***operated far below its own plan*** for water levels at West Point Lake. Further, the next chart shows that basin storage at West Point Lake (13% of storage capacity) is far below that of other USACE-operated lakes in the region, such as Buford/Lake Lanier (51%), WF George (21%) and Lake Seminole (51%).

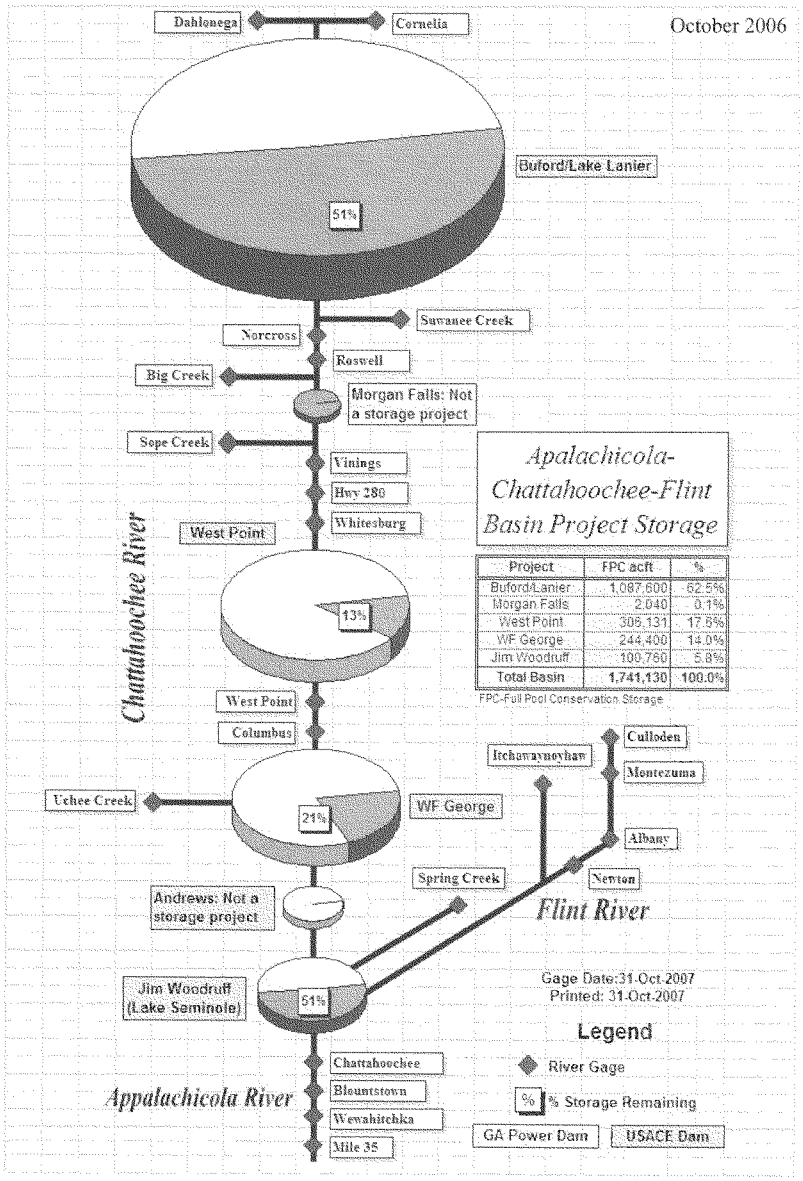
The water level is highly influenced by the level of rainfall that occurs, by inflow from upstream sources and by releases to downstream interests. In a period of prolonged drought, lake levels would logically be drawn down from lack of incoming water streams. At the same time decreased amounts of water would expect to be released from the dam, which would help to stabilize lake levels around a predictable range year-over-year. However, increased withdrawals from the Atlanta region and forced releases downstream to accommodate other demands results in low and volatile water levels.

When rainfall is abundant, officials would be expected to release greater amounts from the dam to stabilize water levels. In recent years lake water levels have been volatile, have reach surprising lows and have infrequently if ever returned to full pool in a few months. This volatility has local officials concerned enough to seek a study on the economic impact of volatile lake water levels.



West Point Updated




October 2006
Dahlonega
Cornelia
Buford/Lake Lanier
51%
Suwanee Creek
Norcross
Roswell
Big Creek
Morgan Falls: Not a storage project
Sope Creek
Vinings
Hwy 280
Whitesburg
West Point
Chattahoochee River
13%
West Point
Columbus
Uchee Creek
21%
WF George
Andrews: Not a storage project
Jim Woodruff (Lake Seminole)
51%
Chattahoochee
Blountstown
Wewahitchka
Mile 35
Appalachicola River
Culloden
Ichawaynochaw
Montezuma
Albany
Spring Creek
Newton
Flint River
Apalachicola-Chattahoochee-Flint Basin Project Storage
Project | FPC acft | %
Buford/Lanier | 1,087,600 | 62.5%
Morgan Falls | 2,040 | 0.1%
West Point | 305,131 | 17.5%
WF George | 244,400 | 14.0%
Jim Woodruff | 100,760 | 5.8%
Total Basin | 1,741,130 | 100.0%
FPC-Full Pool Conservation Storage
Gage Date:31-Oct-2007
Printed: 31-Oct-2007
Legend
River Gage
% Storage Remaining
GA Power Dam
USACE Dam

Existing key pool lake level thresholds set by the USACE are:

- 641 feet msl: top flood capacity pool
- 635 feet msl: optimal pool level
- 632 feet msl: initial recreational impact level
- 630 feet msl: second recreational impact level
- 628 feet msl: winter flood control level

As of October 2007, though, the lake pool level was significantly lower at 622 feet msl. According to officials interviewed for this report, and to the USACE itself, for maximum enjoyment and safety, the full lake pool should be 635 feet msl. At levels of 633 feet msl and below, the lake and local economy are negatively affected in many ways including:

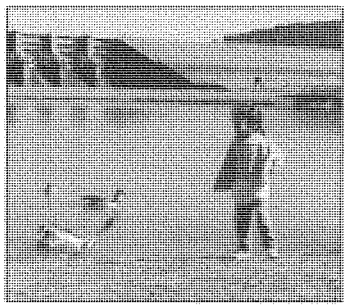
- diminished recreation value
- continued shoreline erosion and sedimentation
- significant financial impacts on marinas, lake related businesses, and home owners
- boat ramps and floating docks becoming grounded
- dangerous safety conditions
- environmental harm
- aesthetically displeasing to prospective industries
- disincentive to new development uses

Hence, BBPC has been commissioned to identify and, where possible, quantify these economic impacts. A baseline was established which described total direct and indirect economic impacts at current water levels. *Much of the data used to establish the baseline was derived using standards set by the US Army Corps of Engineers.* Then, two other analyses were performed to illustrate economic impacts if higher-than-current water levels were maintained.

Thus, the purpose of the study results can be used by decision makers to answer a fundamental question:

Do the economic benefits derived from higher lake water levels offset the costs of downstream flood measures, upstream uses and downstream demands, thereby making the case to incur these costs to realize the greater economic benefits of maintaining higher lake water levels?

C. Definition of Economic Impact



Economic impact occurs when a resident or visitor to an area spends money in that area – no matter what the reason. The benefits to local economy, however, go beyond the basic impact of the dollars spent in the area. These resident / visitor expenditures create a chain effect. The direct effects or impacts of these expenditures become evident as the recipients of these monies in turn pay wages, earn income and pay taxes.

Furthermore, these direct recipients spend their income, thereby creating indirect impact for more jobs, wages, salaries, proprietary income and tax revenues. These direct and indirect effects together equal the total economic impact of all expenditures in the area.

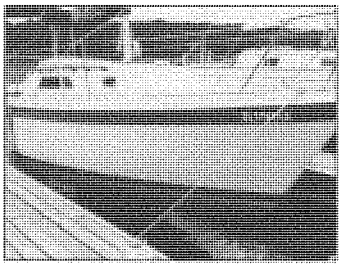
The primary economic effects of lake draw-downs are reduced recreation spending (restaurant, retail, motel/hotel, etc), reduced value (i.e. personal satisfaction, quality of life, leisure opportunities, etc) from the recreation experience and reduced property values that arise from limits on lake access and from deterioration in the quality of scenic views. Some of these impacts affect regional well being, while others may affect national welfare. These effects are the focus of this report.

Specifically, the analysis is intended to offer guidance on the economic benefits to a change in lake management policy that would raise West Point Lake to optimal levels year-round. The study provides estimates of economic impact, or the benefits that accrue from recreation-related spending within the region and the value of real estate immediately abutting West Point Lake and/or US Army Corps of Engineer property. There is also an undeniable "intrinsic value" to the public from higher average annual water levels. No economic impacts from hydroelectric generation were calculated.

Economic Impact Analysis

Economic impact analysis captures the way in which spending ripples through an economy creating income and expands government tax bases. Economic impact analysis is often used to examine the consequences of changes from external and internal events and practices on business activity on a regional economy. These economic impact analysis techniques have been used for the West Point

Lake study to estimate the economic affects arising from changes in recreation and tourism activity.



Regional economic impacts remain highly relevant from the perspective of the region that makes decisions and invests resources to enhance its own welfare. Residents, as well as state and local governments, are rightly concerned about the gains and losses that may be experienced through the economic development process.

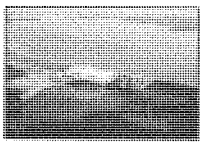
Economic Value

Economic value is not the same as expenditures, income or jobs. Value is instead what persons are willing to pay to purchase a good or service above and beyond the cost to producers of supplying the good or service. Increased value means people are willing to pay more to buy and consume something; increased willingness to pay is a reflection of increased value. In the current context, if year-round lake levels could be increased to and sustained at a minimum of 633 feet msl, value and willingness to pay would likely increase on the part of many visitors and homeowners.

D. West Point Lake: Background and Characteristics

West Point Lake is a 25,864-acre mainstream Chattahoochee River impoundment that has been in existence since 1974, and is located an hour southwest of Atlanta. Escalating consumptive use of water by those areas north and upstream pose a real threat to activities at West Point Lake. Although most of West Point Reservoir is in Georgia, the lake lies on a 45 mile stretch of the Chattahoochee River between Franklin and West Point Georgia.

The lake was authorized by Congress to provide flood control, hydroelectric power, navigation, sport fishing and wildlife development, and general recreation for the region. The 7,250 foot long West Point dam is remote-control operated by the Mobile District via microwave signals from Walter F. George Dam, located about 90 miles downstream.



West Point Dam is located on the Chattahoochee River 3.2 river miles upstream from West Point, Georgia. West Point Lake's main water body is located in Troup County, Georgia, with the lake's upper reaches extending into Heard County. The southwestern portion

of the lake extends into Chambers County, Alabama, with a very small portion extending into Randolph County, Alabama.

From the dam site, the lake extends 35 river miles northward along the Chattahoochee River. The lake's shoreline stretches 525 miles and contains an area of 25,900 acres at the maximum power pool elevation 635.0 m.s.l. The total project acreage is 58,129 acres, which include a buffer area around the lake from 300 to 500 feet wide. The lake drains an area of 3,440 square miles. West Point Lake is shaped like a "shallow bowl," which causes the exposure of expansive mud flats when water levels drop even inches.

West Point Lake offers an abundance of wildlife and a number of ways to enjoy it. When the lake was created, a forested valley was flooded, trees and other structures were left standing to provide excellent fish habitat.

Man-made fish attractors also improve fishing at the lake. Short mild winters, long warm summers, and gradual transitions between seasons characterize the climate making the project conducive to year-round recreational use. There is some seasonal variation in rainfall with the heaviest rains occurring in the winter and the lightest during the fall.

E. West Point Lake: Water Levels Controversy

A key factor distinguishing management practices at West Point Lake from other multiple-purpose water reservoir projects managed by the USACE is that in November 1973, West Point Lake was identified by the US Congress and by the Chief of Engineers for development as a recreational demonstration project. As such, local officials and stakeholders contend that the Corps has a greater responsibility to ensure recreational uses are not negatively impacted in favor of other Corps responsibilities such as flood control, navigation and hydroelectric power generation, consumptive use upstream and other unauthorized downstream uses.

Local government contentions that Corps management practices must place greater emphasis on recreational impacts are further bolstered by the Corps own Master Plan for the lake, which states:

West Point Lake was developed as a demonstration project for the purpose of providing a wider variety of recreational facilities and opportunities for the public than normally provided at Corps Lakes (Preface to Master Plan).

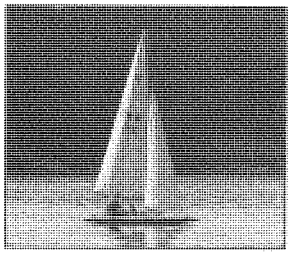
The Master Plan further states:

As stewards of these lands in the public domain, the Corps of Engineers will continue to provide access and encourage use of the project to the fullest extent possible. We will continue to analyze the existing recreation areas and the changing demand to determine the proper facility mix and identify areas needing rehabilitation, closure or expansion (Master Plan, P.13) (see ***Appendix B*** *for additional related master plan excerpts reflecting USACE recreational goals).*

The USACE recreational plans for West Point Lake also have not been met. The USACE Master Plan (P.32) calls for future development of four (4) "public service areas" or marinas. To date, only two marinas exist -- Southern Harbor (a private property) and Highland. These four public service areas are:

- Crossroad – currently undeveloped
- Potts Road – currently undeveloped
- Wehadkee Creek – currently undeveloped
- Whitaker – currently undeveloped – Highland Marina holds lease

Further, since recreation is a Congressionally-authorized purpose at West Point Lake, and is the first US Army Corps of Engineers Lake in the US to have been specifically authorized and designated by Congress as a "demonstration recreation project," local officials and stakeholders feel justified in demanding that the Corps maintain higher water levels.

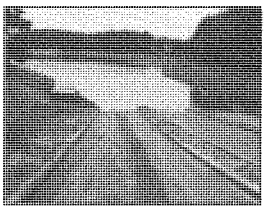


However, in recent years, the Corps has dropped water levels at West Point Lake for extended periods of time. Large expanses of exposed mud shoreline, bank erosion and smaller lake surfaces have become the norm, rather than the exception. Complaints from lakefront property owners, boat slip renters and a wide range of other lake uses and visitors have greatly risen.

Further, it is reported that the City of LaGrange spends more to treat drinking water when water levels fluctuate or inflows are lower than outflows to the lake.

In response to these concerns, the West Point Lake Coalition was founded in 2000 with the goal of promoting and protecting West Point Lake for the use of everyone in and around the community. Focuses of the Coalition include lake safety, water level, cleanliness and environmental protection and overall enjoyment and promotion of the lake.

The Coalition, joined by the City of LaGrange, Troup County, LaGrange-Troup County Chamber of Commerce and other interested parties, simply want the Corps to manage West Point Lake as it has been mandated to do—as a recreation project. Local officials and stakeholders point to an "antiquated and inequitable rule curve" being used by the USACE, and an Interim Operating Plan (IOP) that adversely impacts this lake. While other major lakes in the "system" (Lakes Lanier and George) are allowed to normally fluctuate 1-2 feet, resulting in a 1-7% loss of water surface, a 13 foot range resulting in a 33% loss of water surface and greater bank exposure is permitted at West Point Lake.



Demands for heightened downstream flows for Florida marine life has also risen from efforts to protect endangered sturgeon and two species of mussels. Many lawsuits have been filed in the last 15 years in the tri-state "water wars" by Georgia, Alabama and Florida over these issues.

Additionally, lake uses continue to be adversely affected. Below is a recitation of those impacts reported during stakeholder interviews:

- canceled fishing tournaments:
    - cancellation: Georgia Bass Federation Tournament, October 13th-14th, 2007
    - past event, return is contingent upon future water levels – FLW Wal-Mart Fishing Tournament in February 2007. This past winter tournament officials commented that they would not come back if the water levels were low, as they were in February.
- damages to boat bottoms and motorized propellers due to hitting submerged objects and obstructions
- boats aground that can not be retrieved or used until lake levels rise
- at local boat and tackle shops:
    - owner had to find a second job for supplemental income not only to keep his business alive, but himself. Still, everyday is a struggle.
    - revenue has decreased approximately $20,000 a month
    - foot traffic as well as total revenue has decreased approximately 45% - 50%

- as a result of the lack of business, the owners' gas contract with a local gas/oil company was terminated; the shop is now no longer providing unleaded fuel to consumers who once filled up their boats and/or vehicles.
- minnow, a small silvery fish used as bait, sales have dropped dramatically; at optimal water levels, the shop would easily sell 50-75 a day; today, with low water levels, it is a stretch to sell 15 a day; the sport of fishing at the lake has nearly disappeared.
- overall revenue has dropped more than 50%
- hard to keep business up and running
- foot traffic into the store has decreased by roughly 50%-80%
- recently, one shop spent $18,000 after clearing and prepping land located next to the shop, and built a fenced lot to store boats, boat trailers, and campers; currently, only one boat is in storage, even though the maximum capacity of lot is approximately 75 – 100 boats

- most public boat launching ramps are unusable

- the USACE IOP demands release of water downstream to Florida for endangered mussels, which results in inadequate time for the lakes to refill; because of the drought, what is going out is twice what is coming in

- low water levels have directly and indirectly negatively impacted the recruitment of industrial and commercial businesses in and around West Point Lake

  - direct impact

    - the recruitment of small businesses has been difficult greatly due to the fact that smaller businesses are more susceptible to the financial and market risk.
    - large corporations and businesses have much larger factors to take into consideration; however, after assessing the region and learning how the lake has effected the surrounding community in such a way, such impact becomes an important decision making factor.

  - indirect impact

    - drawing large numbers of people to the region has been challenging; West Point Lake is Troup "County's biggest tourist attraction, and now without it, it is hard to bring money and business to the local economy.

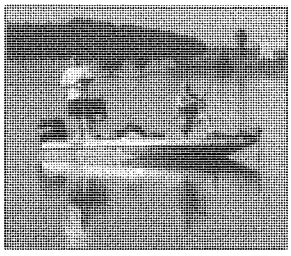
- employees and their families who relocate to the region choose not to reside near the lake due to the poor quality of life and low water levels... why live near a lake where there is no water?; for example, one of the KIA executives decided to buy a house on Lake Harding rather than West Point Lake simply because Lake Harding has the competitive advantage of normal water levels; with West Point Lake's quality of life slowly deteriorating, money and business for the local economy has been redirected elsewhere.

F. Summary of Research Methods and Approach

Three alternative economic impact analyses were prepared:

- Alternative 1: Economic Impact and Value at Low Water Levels of 630 Feet MSL and Below (baseline)
- Alternative 2: Conservative Estimate of Economic Impact and Value at Higher Water Levels (range: 630-633 feet msl)
- Alternative 3: Moderate Estimate of Economic Impact and Value at Optimal Water Levels (range: 633-635 feet msl)

These three alternative calculations utilize and closely follow approaches used by the Corps and the Tennessee Valley Authority (TVA), another public steward of water reservoirs in this region, when it prepares economic impact analyses ("Economic Effects of TVA Lake Management Policy...", May 2003). As such, these figures should be considered defendable.



Those differences arise where the economic value of additional activity precipitated by higher sustained lake water levels has been added. Data was complied from several sources to calculate economic impacts for lake activity at West Point Lake. The lake is a revenue generator for multiple stakeholders including the U.S. Government, local land owners and real estate brokers, marina and tackle shop owners, fishing and boating guides, restaurants and retail store owners and the local citizenry in the form of jobs, which provide salaries and benefits.

In estimating economic impact to fluctuating lake levels, baseline data reflects the current economic impact with the lower than normal lake levels. In addition

to these direct impact analyses, indirect impacts have also been measured. The theory that links spending at more secondary levels of activity not directly traceable to an activity such as recreation and leisure is derived from economics and the models that posit that a dollar spent in the economy has a multiplier effect. This theory is particularly prevalent in Keynesian economic theory.

In Keynesian models, money that is introduced into an economy at any level will be spent several times before it is either saved or invested and therefore not turned over again. For example, a dollar in wages will be spent on groceries, housing, household effects, and leisure activities. A portion of that dollar may even be saved or invested. The dollar will continue to be spent as it changes hand.

Until the dollar is taken out of the economy through savings, investment or perhaps economic loss there will be a multiple of its value to its spending power. Based on this theory, economic agencies over the years have established data sets that are referred to as multipliers. These are simply whole or fractional numbers tied to specific economic sectors and activities.

Though a variety of multiplier models exist for engaging in economic impact analysis, data sets from the U.S. Commerce Department's Bureau of Economic Analysis were used. This model is widely-recognized in the industry as the best tool to use when calculating the economic impact of a change in demand, in earnings or in employment on a region's economy. These data sets are called RIMS II Multipliers, and they are used to gauge effects that spending directly attributable to one economic activity within a defined economic region will have on other activities. For this exercise the RIMS data covers the west Georgia and east Alabama region.

The data will predict spending that West Point Lake activities has on other related and unrelated activities. In order to prevent double-counting, the direct spending we already have noted is subtracted from the data that the RIMS model offers as an estimate of total economic activity—direct and indirect—that occurs from the activity under analysis.

See ***Appendix C*** for the sources and assumptions used in all economic impact calculations.

II. ALTERNATIVE ONE: ECONOMIC IMPACT AND VALUE AT CURRENT LOW WATER LEVELS

A. Economic Impact Categories

The set of tables below illustrates the elements that provide direct annual economic impacts to the region. The first set of data compiles revenues from Corps of Engineers campgrounds and marinas. This data includes land rents from those providing recreational services at West Point Lake. These figures assume no additional land is rented.

West Point Lake Annual Direct Economic Impacts

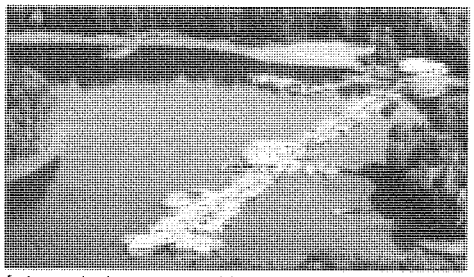
Economic Impact Analysis Variables	Alt. 1: Current Lake Levels Impact
A. Corp of Engineers Revenue	**$879,148**
1. Land rent	$57,811
2. Visitor expenditures	
Camping expenditures	$654,186
Beach access fees	$34,760
Visitor Center fees	$46,440
Honor vault fees	$40,951
3. Per annum dock permits	$45,000
B. Real Estate	**$25,500,000**
1. Value added of real estate with docks.	$25,500,000
C. Marina / Recreation	**$3,006,652**
1. Boat Slip / Dry Dock Revenue	$916,652
2. Lodging Revenue	$1,840,000
3. Boat Rental Revenue	$250,000
D. Retail & Services	**$58,659,850**
1. Automotive Gasoline	$14,041,277
2. Gas/Oil for Boat	$9,094,124
3. Misc. Boat Expenditures	$1,676,612
4. Fishing Guide Fees	$650,000
5. Bait & Ice	$4,492,171
6. Tackle & Fishing Equip.	$3,675,266
7. Misc. Fishing Equip	$5,743,488
8. Beach Accessories	$1,598,426
9. Misc. Beach Expenses	$1,132,710
10. Camping Supplies	$3,849,788
11. Misc. Camping Expenses	$3,198,227
F. Hospitality & Food Services	**$31,899,787**
1. Hotel revenue	$6,120,000
2. Food & restaurant revenue	$25,779,787
H. Government Revenue	**$1,849,354**
1. License & registration fees	$933,379
3. Fishing licenses	$915,975
I. Jobs	**$3,300,000**
1. Direct lake jobs and avg. salaries	$3,300,000
	Total $125,094,791

Acreage is leased to: Georgia DNR at West Point Wildlife Management Area (12,000 ac.), Southern Harbor Marina (478 ac.), Highland Marina (198 ac.), Pyne Road Park (460 ac. to Troup County), Bush Creek Park (152 ac. to Heard County), Riverside Park (22 ac. to City of Franklin), Camps Lumpkin and Gallant BSA areas (900 ac.); and others for smaller areas.

The most recent available visitor expenditure figures covering camping, beach access, the lake's Visitor Center and honor vault fees and dock permit revenues were provided by the USACE at West Point Lake.

The value-added of real estate is also an important component of economic impact especially as it affects homeowners and their access to the lake for recreational uses. A key value-add for homeowners is direct access to boat docks or by proximity to lake shoreline adjoining their properties on lakefront areas. The permitting of such docks is believed to add considerable value to homes.

For those homeowners whose docks are currently unusable due to low lake water levels, property values were decreased by an assumed $50,000 per property (see Appendix C). The value added of real estate with docks was derived from estimates by multiple real estate brokers in the area, and by brokers at other nearby lakes.



Approximately 850 docks are permitted to homeowners on West Point Lake. The Corps states this lake will accommodate over 3,000 privately-owned docks, under current guidelines and shoreline allocations. At current lake levels it is estimated that nearly all of these docks are unusable or are non-functional in that inadequate surface water exists that would allow for boat mooring and full ingress and egress at the dock sites. It is conservatively estimated that current value-added of boat docks at West Point Lake is $25.5 million (assumed only 40% of docks were unusable; see Appendix C).

Private owners and operators of marinas at West Point Lake generate about $3 million in revenues annually under current conditions. These revenues are derived in part from the existing 664 boat slips and dry dock spaces. Lodging revenue is the biggest component of these revenues are about $1.8M, which was collected from 54 rental units at the two marinas. Boat rental revenue is about 10% of all other revenues, according to both existing marina owners.

Retail services that support the thousands of visitors each year also have a large impact on the local economy. Estimates updated from a TVA study in 1997 for Cherokee Lake can be used to project similar annual spending related to recreational pursuits at West Point Lake at $58.7M. Other retail-based revenues include hotel (hospitality) and restaurant revenues, which are estimated to be $31.8 million by the US Army Corps of Engineers and the TVA.

Government licensing and user fees in addition to the fees from Corps' sites listed earlier total $1.8 million. Salaries tied to jobs directly attributable to lake recreational and management activities total approximately $3.3 million. Both sets of figures were derived from the US Army Corps of Engineers and the TVA.

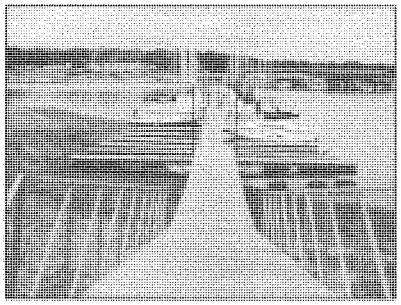
B. Total Economic Impact and Analysis

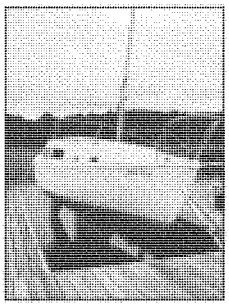
The sum of these direct economic impacts is $125.1M in current dollars. Indirect impacts are the outcome of the RIMS data generated by the US Bureau of Economic analysis (BEA) (see Section I (F) for explanation) and each economic activity already noted in this section. A total of $28.7M of indirect spending is attributable to current West Point Lake activities, as shown below:

INDIRECT IMPACTS GENERATED: CURRENT LAKE LEVELS (ALT. 1)	Retail trade	Amusements, gambling, and recreation	Accommodation	Food services and drinking places
1. Agriculture, forestry, fishing, and hunting	$32,977	$27,877	$17,136	$51,560
2. Mining	$2,537	$1,394	$2,448	$2,578
3. Utilities	$240,984	$174,232	$175,032	$327,403
4. Construction	$152,200	$170,050	$190,944	$208,816
5. Manufacturing	$900,517	$294,103	$292,536	$634,183
6. Wholesale trade	$388,110	$221,623	$214,200	$775,972
7. Retail trade	$26,536,092	$616,083	$565,488	$1,268,366
8. Transportation and warehousing	$352,597	$136,598	$118,728	$283,578
9. Information	$1,042,571	$578,449	$552,024	$1,013,146
10. Finance and insurance	$552,994	$323,374	$299,880	$551,687
11. Real estate and rental and leasing	$1,116,134	$648,141	$517,752	$1,067,283
12. Professional, scientific, and technical svcs.	$273,960	$174,232	$130,968	$211,394
13. Management of companies and enterprises	$1,463,658	$315,011	$264,384	$139,211
14. Administrative and waste management svcs.	$550,457	$281,558	$318,240	$268,110
15. Educational services	$114,150	$58,542	$52,632	$103,119
16. Health care and social assistance	$1,105,988	$590,993	$525,096	$1,036,347
17. Arts, entertainment, and recreation	$27,903	$13,953,856	$13,464	$28,358
18. Accommodation and food services	$390,647	$199,321	$12,432,168	$26,205,153
19. Other services	$337,377	$234,167	$231,336	$353,183
Total	$35,581,853	$18,999,601	$16,914,456	$34,529,447
Indirect Impacts Less Spending Noted	$10,215,165	$5,061,078	$4,674,456	$8,749,660
Sum of the total indirect impact columns	**$28,700,359**			
Source Data: Bureau of Economic Analysis – U.S. Dept. of Commerce				

The total of direct and indirect economic impacts at West Point Lake at current lake water levels is over $153.8M, as shown below:

Total Spending for West Point Lake Activities	
Alternative 1	
Category (Direct Spending)	Revenues
Corp of Engineers Revenue	$879,148
Real Estate	$25,500,000
Marina / Recreation	$3,006,652
Retail & Services	$58,659,850
Hospitality & Food Services	$31,899,787
Government Revenue	$1,849,354
Jobs	$3,300,000
Total Direct Spending	**$125,094,791**
Category (Indirect Spending)	Revenues
Retail	$10,215,165
Ammusements, Recreation	$5,061,078
Accomodation	$4,674,456
Food/Drink Places	$8,749,660
Total Indirect Spending	**$28,700,359**
Total Direct and Indirect	**$153,795,150**
Sources: Corps of Engineers, BBPC Associates	



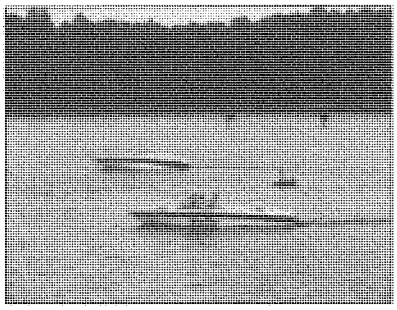


III. ALTERNATIVE TWO: CONSERVATIVE ESTIMATE OF ECONOMIC IMPACT AND VALUE AT HIGHER WATER LEVELS

A. Economic Impact Categories

Using the same baseline data for current lake conditions BBPC Associates constructed two additional estimates of economic impact from assumed higher lake levels than now exist. The first of the two estimates is illustrated below:

West Point Lake Alternate Economic Impact Estimate Economic Impact Analysis Variables	Alt. 2: Conservative Estimate
A. Corp of Engineers Revenue	**$934,137**
1. Land rent	$57,811
2. Visitor expenditures	
Camping expenditures	$684,082
Beach access fees	$36,349
Visitor Center fees	$48,562
Honor vault fees	$42,822
3. Per annum dock permits	$64,510
B. Real Estate	**$289,185,000**
1. Value added of real estate with docks.	$31,875,000
2. Premium: value added - lakefront lots	$257,310,000
C. Marina / Recreation	**$3,940,737**
1. Boat Slip / Dry Dock Revenue	$1,468,852
2. Lodging Revenue	$2,123,077
3. Boat Rental Revenue	$348,808
D. Retail & Services	**$51,398,338**
1. Automotive Gasoline	$14,682,963
2. Gas/Oil for Boat	$9,509,725
3. Misc. Boat Expenditures	$1,753,233
4. Fishing Guide Fees	$679,705
5. Bait & Ice	$4,697,464
6. Tackle & Fishing Equip.	$3,843,225
7. Misc. Fishing Equip	$6,005,966
8. Beach Accessories	$1,671,474
9. Misc. Beach Expenses	$1,184,475
10. Camping Supplies	$4,025,723
11. Misc. Camping Expenses	$3,344,386
F. Hospitality & Food Services	**$34,157,923**
1. Hotel revenue	$7,200,000
2. Food & restaurant revenue	$26,957,923
H. Government Revenue	**$1,933,869**
1. License & registration fees	$976,034
3. Fishing licenses	$957,835
I. Jobs	**$3,300,000**
1. Direct lake jobs and avg. salaries	$3,300,000
TOTAL DIRECT IMPACT	**$384,850,005**
Sources: Corps of Engineers, TVA, BBPC Associates	



The assumptions used to derive these estimates include increased levels of spending for camping and recreational opportunities, as well as increased level of spending for retail and restaurant activities, fishing licenses, boating rentals and accommodations. The increases are attributed to increases in visitation on an annual basis of approximately 4.57%, the same rate of increase in the Consumer Price Index (CPI) since 1995.

An additional 200 boat slips, 200 additional dry dock spaces and 10 additional rental lodging units were assumed to be added to marinas given higher lake levels and less water level volatility.

Per annum dock fees were also assumed to increase, as the planned 385 docks to be constructed at the Highland/Settings projects were added to the dock inventory. Also, it was assumed only 25% of docks would remain unusable at this higher water level. The greater utilization of privately owned boat docks on lakefront properties was also assumed to add significantly more value to homeowners properties.

Most importantly, if lake levels were maintained at higher levels, it is assumed that more of the available shoreline would be developed into residential units. As shown in Appendix C, Trimble Appraisal Services completed an analysis which concludes that the premium for a lakefront lot versus an interior lot currently is $67,500. Since 288 miles of shoreline can still be developed if lake water levels are attractive to builders and home purchasers, the premium value added of lakefront residential units (assume each lot has 200' of lake frontage) equates to over $0.5 Billion.

For purposes of Alternative 2 (conservative estimate), only one-half of the available shoreline is assumed to be developed ($257,310,000) at higher water levels. At optimal water levels (Alternative 3), 95% of the premium value ($488,889,000) is assumed.

B. Total Economic Impact and Analysis

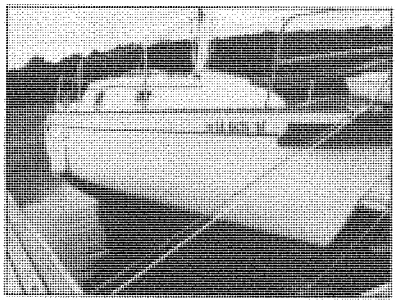
The sum of these direct economic impacts is $384.9M in current dollars. Indirect impacts are the outcome of the RIMS data. A total of $34.5M of indirect

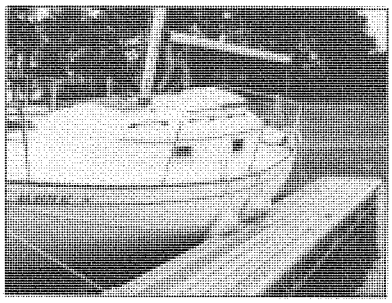
spending is attributable to this conservative estimate of economic activity at higher West Point Lake water level, as shown below:

INDIRECT IMPACTS GENERATED: CONSERVATIVE ESTIMATE (ALT. 2)	Retail trade	Amusements, gambling, and recreation	Accommodation	Food services and drinking places
1. Agriculture, forestry, fishing, and hunting	$34,484	$30,551	$17,919	$53,916
2. Mining	$2,653	$1,528	$2,560	$2,696
3. Utilities	$251,996	$190,941	$183,031	$342,366
4. Construction	$159,156	$186,359	$199,670	$218,359
5. Manufacturing	$941,671	$322,309	$305,905	$663,165
6. Wholesale trade	$405,847	$242,877	$223,989	$811,433
7. Retail trade	$27,748,791	$675,168	$591,331	$1,326,330
8. Transportation and warehousing	$368,711	$149,698	$124,154	$296,537
9. Information	$1,090,216	$633,925	$577,251	$1,059,446
10. Finance and insurance	$578,266	$354,387	$313,585	$576,900
11. Real estate and rental and leasing	$1,167,142	$710,301	$541,413	$1,116,058
12. Professional, scientific, and technical services	$286,480	$190,941	$136,953	$221,055
13. Management of companies and enterprises	$1,530,547	$345,222	$276,466	$145,573
14. Administrative and waste management services	$575,613	$308,561	$332,784	$280,362
15. Educational services	$119,367	$64,156	$55,037	$107,832
16. Health care and social assistance	$1,156,531	$647,673	$549,093	$1,083,709
17. Arts, entertainment, and recreation	$29,179	$15,292,102	$14,079	$29,654
18. Accommodation and food services	$408,500	$218,437	$13,000,318	$27,402,729
19. Other services	$352,795	$256,625	$241,908	$369,324
Total	$37,207,943	$20,821,760	$17,687,447	$36,107,442
Indirect Impacts Less Spending Noted	$11,841,256	$6,883,236	$5,447,447	$10,327,655
Sum of the total indirect impact columns	**$34,499,594**			
Source Data: Bureau of Economic Analysis – U.S. Dept. of Commerce				

The total of direct and indirect economic impacts at West Point Lake assuming conservative estimates at higher West Point Lake water levels is over $429.3M, as shown below:

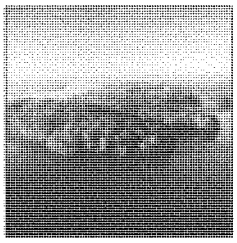
Total Spending for West Point Lake Activities	
Alternative 2	
Category (Direct Spending)	Revenues
Corp of Engineers Revenue	$934,137
Real Estate	$289,185,000
Marina / Recreation	$3,940,737
Retail & Services	$51,398,338
Hospitality & Food Services	$34,157,923
Government Revenue	$1,933,869
Jobs	$3,300,000
Total Direct Spending	**$384,850,004**
Category (Indirect Spending)	Revenues
Retail	$11,841,256
Ammusements, Recreation	$6,883,236
Accomodation	$5,447,447
Food/Drink Places	$10,327,655
Total Indirect Spending	**$34,499,594**
Total Direct and Indirect	**$419,349,599**
Sources: Corps of Engineers, BBPC Associates	
TVA, Bureau of Economic Analysis	





IV. ALTERNATIVE THREE: MODERATE ESTIMATE OF ECONOMIC IMPACT AND VALUE AT HIGHER WATER LEVELS

A. Economic Impact Categories



The second alternate estimate assumes the optimum lake level for West Point Lake to be 635 ft. above msl. This final estimate of economic impact assumes that visitor levels would increase by more than 11.2% from current levels. These assumed increases apply the "conservative" estimate for higher water levels from the TVA study.

As well, boat slip revenues increase from the assumed addition of more than 600 additional boat slips and 500 dry dock spaces, if the Maple Creek site is developed (see below). Also, 25 new rental lodging units were assumed to be added to the marinas. And, property values will increase as all boat docks are fully functional and thus enhance home values to the maximum extent, as shown below:

West Point Lake Alternate Economic Impact Estimate Economic Impact Analysis Variables	Alt. 3: Moderate Estimate
A. Corp of Engineers Revenue	**$997,645**
1. Land rent	$57,811
2. Visitor expenditures	
Camping expenditures	$732,688
Beach access fees	$38,931
Visitor Center fees	$52,013
Honor vault fees	$45,865
3. Per annum dock permits	$70,337
B. Real Estate	**$531,389,000**
1. Value added of real estate with docks.	$42,500,000
2. Premium: valued added - lakefront lots	$488,889,000
C. Marina / Recreation	**$5,458,663**
1. Boat Slip / Dry Dock Revenue	$2,435,202
2. Lodging Revenue	$2,547,692
3. Boat Rental Revenue	$475,769
D. Retail & Services	**$54,657,129**
1. Automotive Gasoline	$15,613,902
2. Gas/Oil for Boat	$10,112,667
3. Misc. Boat Expenditures	$1,864,393
4. Fishing Guide Fees	$722,800
5. Bait & Ice	$4,995,295
6. Tackle & Fishing Equip.	$4,086,896
7. Misc. Fishing Equip	$6,386,760
8. Beach Accessories	$1,777,449
9. Misc. Beach Expenses	$1,259,574
10. Camping Supplies	$4,280,965
11. Misc. Camping Expenses	$3,556,429
F. Hospitality & Food Services	**$37,464,002**
1. Hotel revenue	$8,796,875
2. Food & restaurant revenue	$28,667,127
H. Government Revenue	**$2,056,482**
1. License & registration fees	$1,037,917
3. Fishing licenses	$1,018,564
I. Jobs	**$3,300,000**
1. Direct lake jobs and avg. salaries	$3,300,000
TOTAL DIRECT IMPACT	**$635,322,921**

Sources: Corps of Engineers, TVA, BBPC Associates

Also, these estimates assume per annum dock permits increase to 1,388, or 500 more permits issued than under current conditions. And, it is assumed at these higher water levels that all docks are rendered usable.

B. Total Economic Impact and Analyses

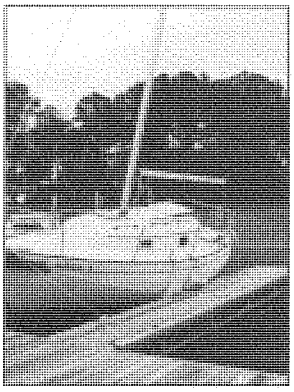
The sum of these direct economic impacts is $635.3M in current dollars. Indirect impacts are the outcome of the RIMS data. A total of $47.2M of indirect spending is attributable to this moderate estimate of economic activity at higher West Point Lake water levels, as shown below:

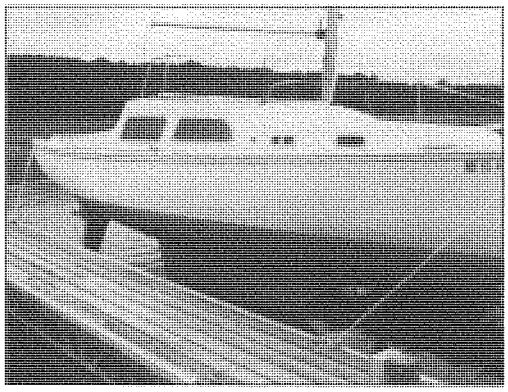
INDIRECT IMPACTS GENERATED: MODERATE ESTIMATE (ALT. 3)	Retail trade	Amusements, gambling, and recreation	Accommodation	Food services and drinking places
1. Agriculture, forestry, fishing, and hunting	$36,670	$34,794	$23,150	$57,334
2. Mining	$2,821	$1,740	$3,307	$2,867
3. Utilities	$267,974	$217,464	$236,463	$364,073
4. Construction	$169,247	$212,245	$257,960	$232,204
5. Manufacturing	$1,001,375	$367,079	$395,208	$705,211
6. Wholesale trade	$431,579	$276,614	$289,378	$862,881
7. Retail trade	$29,508,138	$768,952	$763,958	$1,410,423
8. Transportation and warehousing	$392,088	$170,492	$160,398	$315,338
9. Information	$1,159,339	$721,980	$745,768	$1,126,618
10. Finance and insurance	$614,929	$403,613	$405,129	$613,477
11. Real estate and rental and leasing	$1,241,141	$808,965	$699,468	$1,186,819
12. Professional, scientific, and technical services	$304,644	$217,464	$176,934	$235,070
13. Management of companies and enterprises	$1,627,588	$393,174	$357,175	$154,802
14. Administrative and waste management services	$612,108	$351,421	$429,933	$298,138
15. Educational services	$126,935	$73,068	$71,104	$114,669
16. Health care and social assistance	$1,229,858	$737,637	$709,389	$1,152,419
17. Arts, entertainment, and recreation	$31,029	$17,416,238	$18,189	$31,534
18. Accommodation and food services	$434,400	$248,779	$16,795,493	$29,140,135
19. Other services	$375,163	$292,271	$312,528	$392,740
Total	$39,567,025	$23,713,988	$22,850,933	$38,396,750
TOTAL INDIRECT IMPACT	$14,200,338	$9,775,465	$10,610,933	$12,616,963
Indirect Impacts Less Spending Noted	**$47,203,698**			
Source Data: Bureau of Economic Analysis – U.S. Dept. of Commerce				

The only assumption that makes the final scenario different from the previous two is the addition of construction spending that is assumed to take place from optimal water levels. The one-time construction impact noted in the table below assumes additional economic impact due to construction of the planned 125-room hotel at the Maple Creek site (see ***Appendix D*** for details).

The total of direct, indirect and construction-related economic impacts at West Point Lake assuming moderate estimates at higher West Point Lake water levels is nearly $709.8M, as shown below:

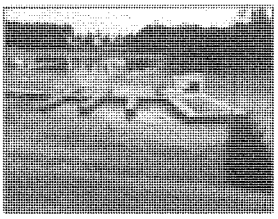
Total Spending for West Point Lake Activities	
Alternative 3	
Category (Direct Spending)	**Revenues**
Corp of Engineers Revenue	$997,645
Real Estate	$531,389,000
Marina / Recreation	$5,458,663
Retail & Services	$54,657,129
Hospitality & Food Services	$37,464,002
Government Revenue	$2,056,482
Jobs	$3,300,000
Total Direct Spending	**$635,322,921**
Category (Indirect Spending)	**Revenues**
Retail	$14,200,338
Ammusements, Recreation	$9,775,465
Accomodation	$10,610,933
Food/Drink Places	$12,616,963
Total Indirect Spending	**$47,203,698**
Construction Spending Impact	$27,239,000
Total Direct and Indirect and Construction Spending	**$709,765,619**
Sources: Corps of Engineers, BBPC Associates TVA, Bureau of Economic Analysis	





V. ADDITIONAL DIRECT AND INDIRECT IMPACTS

A. Summary: Measurable Direct and Indirect Impacts



Shallow water levels at West Point Lake have impacted not only life on the lake, but the surrounding local economy as well. After consultation with several local officials and business owners, a general consensus can be made that such abnormal water levels have dramatically impacted the regions economic status.

- Individuals, businesses and land that are located on and/or near the 525 miles of shoreline have taken the brunt of the impact.
  - Local marina owners have reported that majority of the docks and boat slips available on the lake (about 40%-60%) have become grounded, disrupting their business and resulting in lost revenue. One individual stated that his business had missed out on "an easy $25,000 - $30,000" in revenue (equating to approximately 50% of his overall revenue) for the 2007 season. As a result, many owners have been forced to accept a financial loss. Others have taken a different approach by investing in the construction of costly slip extensions in hope of increased business. Most notably, one owner has been obligated to pursue alternative business practices.
  - Boat sales, service and water sport rentals have all decreased significantly.
  - Local lodging facilities along with restaurants, gas stations, bait/tackle, retail and convenience stores and all who service the thousands of tourists at West Point have all been negatively impacted.
- The safety and water conditions of West Point Lake have been questioned and placed under deep scrutiny.
  - With low water levels, it is natural to have increased water hazards (sticks, rocks, low depth, etc.) that one might not be aware of and that cause unsafe conditions. The Chattahoochee River area is known to be extremely dangerous due to low depths. If boaters remove themselves from the marked channel, they will go "from 20 feet of water to ankle deep in a matter of seconds." Even though, attempts have been made to

place markers where possible danger zones exist, several cases of minor boat damage have been reported.

- Many locals, all of whom are avid boaters, have been obligated to place their boats in storage for the past two years due to such conditions.

- As a result, many individuals, families and tourists have decided not to take part in such dangerous water activities.

It is safe to conclude that the water level of West Point Lake has a direct correlation with its local economy. At this time, with the water level below its optimal range, the lake has negatively impacted the local economy by deterring tourists and investors. Land values have decreased and less money has been attracted to the local economy. With less money being drawn into the West Point Lake region, in general, local businesses have reportedly seen annual revenues and sales decrease by approximately 30-60%. Home values and sales along with West Point's resort image have also been negatively affected.

As the summary table below shows, economic impact is expected to increase as West Point Lake water levels increase to optimal levels from currently lower than normal levels. At optimal levels, additional impacts to recurring impacts include additional construction activity for both residential and commercial uses.

West Point Lake – Comparison of Economic Impacts and Differing Water Levels			
	Current Level	Higher Level	Optimal Level
Direct Spending Impact	$125,094,791	$384,850,005	$635,322,921
Indirect Spending Impact	$28,700,359	$34,499,594	$47,203,698
Total Consumer Impact:	$153,795,150	$419,349,599	$682,526,619
Impact from New Construction			$27,239,000
Total Impact	$153,795,150	$419,349,599	$709,765,619
Change for Each Scenario		$265,554,449	$290,416,020
Total Change in Impact			$555,970,469
Sources: Corps of Engineers, TVA, BBPC Associates			

The total additional impact from returning West Point Lake to historic levels is estimated to be more than $556 million. That amount is about 362% more than the current impact. Such an impact would echo throughout the communities situated in and around the lake and would bring more stability to businesses located in the area who are dependent in part on the visitor spending generated by recreational activities at West Point Lake.

B. Additional Impacts and Multiplier Effects

1. *impacts of KIA-related job growth*

KIA, the world's sixth leading and fastest growing automaker, will soon open a new 28M SF plant in West Point. This plant, the largest project in state history, will create 2,500 direct jobs, 2,000 more indirect jobs and about 10,000 jobs with related suppliers, some of which will also locate in this area (see below). Automobile population at this $1B plant, which will have a 650-acre foundation, will begin in November 2009.

Not only will the new residents taking jobs with KIA utilize West Point Lake, but also business visitors to the plant will stimulate local businesses, such as hotels and restaurants. Lodging patronage mix will likely shift from the current 60% leisure/40% business ratios to more business overnight stays. More business-oriented restaurant offerings likely will occur, as well.

2. *planned local residential and commercial project construction*

Given that the West Point Lake area is the only non-metropolitan area in the state where two interstate highways cross, and given how close this area is to Atlanta, much more development activity is anticipated. More residential and commercial construction has already been announced that will generate additional economic impacts at West Point Lake.

About 12,000 additional housing units will be added to the local housing inventory when numerous residential projects in the planning stages of development are built. These projects have been discussed with local officials, most would be located within a few miles of LaGrange and most are part of the anticipated wave of growth heading toward West Point Lake from Atlanta.

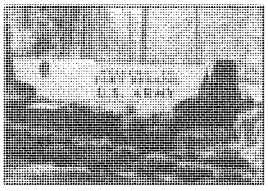
Inevitably, some of this residential growth will gravitate to the shoreline of West Point Lake; as such, additional dock construction will occur. Economic impacts tied to dock construction and maintenance activities will be generated. Due to recent changes in regulations at the lake, dock construction can now occur 100' (was 80') from the 635' pool level for privately-owned boat docks. And, projects like the Settings at West Point Lake (470 acres, 220 lots) will generate dock construction activity. Home site sales at The Settings has not suffered as much due to the fact that majority of the properties are fortunately located near the deepest parts of the lake. As a preventative measure, though, management at The Settings has decided not to install private docks for each home site, but to instead construct seven

large community multi-slip docks strategically placed where fluctuating water level has very little influence on its use.

Moreover, as noted in Alternatives 2 and 3 above, if water levels were higher and more stable, over 7,600 residential units could be constructed on lakefront lots not yet developed. The one-time construction impacts of these residential units would be tremendous; but, to be conservative, **none** of this construction spending was included in the economic impact figures detailed in Alternatives 2 and 3.

Likewise, more commercial construction is anticipated. A 100-room Courtyard by Marriott will soon be built in downtown LaGrange. And, several business/industrial expansions will occur near West Point Lake due to the opening of the new KIA automobile plant in West Point in 2009 (see above). Included will be new job creation (150 jobs) at the Molded Products facility in LaGrange, a new Dae-Lim USA facility in LaGrange (75 jobs) and a new auto supplier facility (Mobis) next to the KIA plant (600 jobs) in 2010.

3. ***impacts of expansion of Fort Benning***



As a result of recent DoD decisions related to base realignment and closure nationwide, nearby Fort Benning located south of LaGrange will experience a significant increase in personnel. Home of the US Infantry School and headquarters of the 3rd Brigade and 3rd Infantry Division, Fort Benning will grow by 5,500 permanent military and 5,600 civilian employees and contractors by 2011.

Estimates are that an additional 17,000 new jobs will result in the surrounding 7-county area in Georgia and Alabama. And, several surrounding residential projects under discussion -- one is a new 1,200 unit subdivision, and the other is a new 2,000 unit project on 1,100 acres that will also have over 3M SF of commercial space -- will undoubtedly also generate economic impacts at West Point Lake.

C. Matrix: Future Development Potential and Ability to Attract Commerce

Six types of impact are likely as future developments occur and the region's ability to attract commerce is enhanced:

- impacts on visitor expenditures

- impacts on marina and recreation services
- impacts on retail and services revenues
- impacts on hospitality and food services revenues
- impacts on government revenues and jobs
- impacts on industrial recruitment

The cumulative effect of the new KIA plant and its spin-off activities, the planned residential/commercial construction in the area and the expansion of the Fort Benning personnel and its economic multiplier impacts will generate impacts on a number of lake-related activities. Below is a matrix depicting the expected degree and timing of these six types of impacts:

Impacts Matrix

Impacts On	Likely Degree of Impacts			Impact Timing	
	Low	Medium	High	Next 3-5 Years	Thereafter
Visitor Expenditures at Lake		✓		✓	
Marina and Recreation Expenditures			✓	✓	
Retail and Services Revenues		✓		✓	✓
Hospitality and Food Services Revenues		✓			✓
Government Revenues and Jobs			✓	✓	✓
Industrial Recruitment		✓		✓	✓

The degree of impacts on these six categories should range from medium to high; given the influx of residents, businesses and related activities, no low degrees of impacts are projected. And, given the resulting time it may take for support activities (retail and hospitality services) and resulting taxes/jobs to occur, more immediate impacts are foreseen on existing lake activities, such as campgrounds, marinas, fishing and the lake.

D. Floodplain Real Estate Valuation and Cost/Benefit Analysis

1. downstream flood prevention/real estate acquisition costs

According to the 1998 Draft Environmental Impact Statement, in the 500 year flood plain south of the dam there were 11 residential structures, 18 public buildings and 220 commercial structures. Total value of these structures and buildings, including contents, inventory and equipment, at the time was about $130 million.

However, the same document stated that if flood storage was completely eliminated, possible downstream flooding would be limited to only $5.1 million in annualized damages. Accordingly, even doubling this figure would result in a possible $10 million in annualized cost.

2. comparison: value of economic benefits vs. downstream costs

Comparing a possible one-time $10M cost to a net annual economic benefit ranging from $265.5M to $528.7M (difference between Alternative 1, and Alternatives 2 and 3) is not a difficult exercise.

VI. Conclusions

It is clear that USACE operating and management practices at West Point Lake have negatively impacted the economy of this region in a significant way. While the USACE may attempt to point to the drought being experienced as the reason for those adverse impacts, that would be subterfuge to divert attention away from the facts.

This lake was mandated by Congress nearly 35 years ago to be a recreational demonstration project. The USACE had devised plans to respect this mandate by monitoring water levels high enough to the allow recreational pursuits intended. However, the USACE has failed to adhere to both this mandate and its own operating plans since about May 2006.

Instead, the USACE has allowed water levels to drop to disastrous levels. The havoc created in terms of lost recreational opportunities, missed economic benefits, damages to business retention and industrial recruitment, and other negative impacts have been thoroughly documented and detailed in this report.

It is now the responsibility of the USACE to reform its efforts at West Point Lake to stem these damages and restore water levels to accommodate the pursuits Congress intended and authorized to benefit citizens in this region.

Appendix A

List of Stakeholders Interviewed

Representing	Participant
Introductory Mtg & Overview	Joe Maltese & Dick Timmerberg
Co-Chairs of SOS Committee City of LaGrange et al	Mayor Jeff Lukken, Jeff Brown and Patrick Crews et al
Realtor Developer	Jim Daniel, Daniel Realty
Realtor Developer	Roy Spinks, Spinks Brown Durand
Leisure Industry	Scott Malone, Best Western
Realtor Developer	Joe and Rob Upchurch
Realtor Developer	Joyce Trimble, Cornerstone Properties
Major Development	Mike Agee et al "The Settings" Development
City of West Point	Darren Kelley (Councilman) and Ed Moon CM
New Interviews	Jennifer Schrader LDN
Local Government Official	Richard English (Co)
Local Government Official	Norma Tucker (City)
Major Developer	Ron Orr
Chamber and Tourism	Jane Fryer
Local Government Official	Rick Wolfe (Chair) and Mike Dobbs (CM)
Chamber and Tourism	Dianne Holbrook
Valley Chamber	Eleanor Crowder
Economic and Industrial Development – KIA	Mike Criddle, Ray Coulombe
Corps (Land Use)	Stephen Logan and Bob Chitwood(at Corps Office)
Marina Operator	Robbie Nichols (at Southern Harbor)
Marina Operator	Danny and Chris Elrich at Highland Marina
Major Development	Brian McQuarters, The Settings Development
Marina Dock Construction	Don Hale, Don's Dock's
Boat Sales	Adam Mitchell, Mitchell Marine
Bait and Tackle Shop (Grasshoppers)	Amanda Bowen
Bait and Tackle Shop (DJ's)	Larry Grizzard
Fishing Guide	Keith Hudson
Fishing Guide	Joey Mines
Fishing Guide	Paul Parsons

Appendix B

Excerpts: USACE Master Plan

3.3.3 PROTECT AND FURTHER DEVELOP THE FISH AND WILDLIFE MANAGEMENT PROGRAMS ON ALL PUBLICLY OWNED LANDS AND WATERS TO INSURE THE CONTINUED PUBLIC ENJOYMENT OF BOTH CONSUMPTIVE AND NONCONSUMPTIVE USE OF THE FISH AND WILDLIFE RESOURCES OF THE PROJECT.

All Forest and fish and wildlife management activities will be coordinated with the Georgia Game and Fish Division or the Alabama Department of Conservation as appropriate. We will plan f o r the development of facilities and activities for compatible nonconsumptive use and provide for sound game and nongame management practices. Fishery benefits will be maintained through a variety of the following methods, all of which will be coordinated with the appropriate State fishery agencies:

Protection of existing water quality
Replacement and addition of fish attractors and shelters
Maintenance of boat ramps and Fishing piers
Dissemination of public information
Management of lake water levels
Conducting fish population studies.

4.1 RESOURCE CAPACITY AND ANALYSIS.

b. The U.S. Army Corps of Engineers Institute for Water Resources (IWR) Research Report 74-R1 was used as a guide to check the previous attendance projection and to make final determination for the facility design day load and maximum practical use of the natural resources of the project. This analysis determined that the 6,900,000 visitors projected for the year 1985 is the optimum visitation. Studies indicate that when space requirements for boating related activities were applied to the size of the lake using the IWR guide formulas, a good correlation was achieved. This verified that the optimum use of the lake will occur when the ultimate visitation of 6,900,000 is reached.

Appendix C

Economic Impact Calculations: Sources and Assumptions

Economic Impact of West Point Lake at Various Lake Water Levels

West Point Lake Annual Direct Economic Impacts	
SOURCE	**Economic Impact Analysis Variables**
	A. Corp of Engineers Revenue
Army Corps	1. Land rent
	2. Visitor expenditures
Army Corps/TVA Study	Camping expenditures
Army Corps/TVA Study	Beach access fees
Army Corps/TVA Study	Visitor Center fees
Army Corps/TVA Study	Honor vault fees
Army Corps/TVA Study	3. Per annum dock permits
	B. Real Estate
Estimates decrease property value by $50,000 per unusable dock, value added as estimated by multiple local real estate brokers.	1. Value added of real estate with docks.
Trimble Appraisal Services	2. Premium: value added - lakefront lots
	C. Marina / Recreation
Estimates based on conversations with local marina owners.	1. Boat Slip / Dry Dock Revenue
Estimates based on conversations with local marina owners.	2. Lodging Revenue
Estimates based on conversations with local marina owners.	3. Boat Rental Revenue
	D. Retail & Services
Army Corps/TVA Study	1. Automotive Gasoline
Army Corps/TVA Study	2. Gas/Oil for Boat
Army Corps/TVA Study	3. Misc. Boat Expenditures
Army Corps/TVA Study and local guide interviews	4. Fishing Guide Fees
Army Corps/TVA Study	5. Bait & Ice
Army Corps/TVA Study	6. Tackle & Fishing Equip.
Army Corps/TVA Study	7. Misc. Fishing Equip
Army Corps/TVA Study	8. Beach Accessories
Army Corps/TVA Study	9. Misc. Beach Expenses
Army Corps/TVA Study	10. Camping Supplies
Army Corps/TVA Study	11. Misc. Camping Expenses
	F. Hospitality & Food Services
Army Corps/TVA Study	1. Hotel revenue
Army Corps/TVA Study	2. Food & restaurant revenue
	H. Government Revenue
Army Corps/TVA Study	1. License & registration fees
Army Corps/TVA Study	3. Fishing licenses
	I. Jobs
	1. Direct lake jobs and avg. salaries
	TOTAL DIRECT IMPACT
BEA (US Dept. of Commerce)	**TOTAL INDIRECT IMPACTS**
	TOTAL DIRECT AND INDIRECT IMPACTS
Army Corps	**TOTAL CONSTRUCTION SPENDING (ONE TIME REVENUE)**
	TOTAL ECONOMIC IMPACT

Economic Impact of West Point Lake at Various Lake Water Levels

West Point Lake Annual Direct Economic Impacts

Economic Impact Analysis Variables	ASSUMPTIONS
A. Corp of Engineers Revenue	
1. Land rent	Assumes no new additional land rented.
2. Visitor expenditures	
Camping expenditures	Alt 2: Assumes visitation grew @ 4.57%; Alt 3: Assumes visitation grew @ 11.2% (conservative estimate for higher water levels from TVA study)
Beach access fees	Alt 2: Assumes visitation grew @ 4.57%; Alt 3: Assumes visitation grew @ 11.2% (conservative estimate for higher water levels from TVA study)
Visitor Center fees	Alt 2: Assumes visitation grew @ 4.57%; Alt 3: Assumes visitation grew @ 11.2% (conservative estimate for higher water levels from TVA study)
Honor vault fees	Alt 2: Assumes visitation grew @ 4.57%; Alt 3: Assumes visitation grew @ 11.2% (conservative estimate for higher water levels from TVA study)
3. Per annum dock permits	Alt 2: Assumes 385 docks constructed as planned @ Highland/Settings; Alt 3: assumes these 1388 docks total (500 more than current number)
B. Real Estate	
1. Value added of real estate with docks.	Alt 1: 40% unusable, Alt 2 Low: 25% unusable, Alt 3 High: All usable
2. Premium: value added - lakefront lots	Trimble Appraisal Services report, November 2007
C. Marina / Recreation	
1. Boat Slip / Dry Dock Revenue	Alt 2: +200 boat slips; Alt 3: +600 boat slips (Assm. Maple Creek Marina built) Alt 2: +200 dry dock spaces Alt 3: +500 dry dock spaces (Assm. Maple Creek Marina built)
2. Lodging Revenue	Alt 2: assumes 10 cabins added; Alt 3: assumes 25 cabins added
3. Boat Rental Revenue	Boat rental is 10% of all other revenues (both marina owners offered the same figure)
D. Retail & Services	
1. Automotive Gasoline	Alt 2: Assumes visitation grew @ 4.57%; Alt 3: Assumes visitation grew @ 11.2%
2. Gas/Oil for Boat	Alt 2: Assumes visitation grew @ 4.57%; Alt 3: Assumes visitation grew @ 11.2%
3. Misc. Boat Expenditures	Alt 2: Assumes visitation grew @ 4.57%; Alt 3: Assumes visitation grew @ 11.2%
4. Fishing Guide Fees	Alt 2: Assumes visitation grew @ 4.57%; Alt 3: Assumes visitation grew @ 11.2%
5. Bait & Ice	Alt 2: Assumes visitation grew @ 4.57%; Alt 3: Assumes visitation grew @ 11.2%
6. Tackle & Fishing Equip.	Alt 2: Assumes visitation grew @ 4.57%; Alt 3: Assumes visitation grew @ 11.2%
7. Misc. Fishing Equip	Alt 2: Assumes visitation grew @ 4.57%; Alt 3: Assumes visitation grew @ 11.2%
8. Beach Accessories	Alt 2: Assumes visitation grew @ 4.57%; Alt 3: Assumes visitation grew @ 11.2%
9. Misc. Beach Expenses	Alt 2: Assumes visitation grew @ 4.57%; Alt 3: Assumes visitation grew @ 11.2%
10. Camping Supplies	Alt 2: Assumes visitation grew @ 4.57%; Alt 3: Assumes visitation grew @ 11.2%
11. Misc. Camping Expenses	Alt 2: Assumes visitation grew @ 4.57%; Alt 3: Assumes visitation grew @ 11.2%
F. Hospitality & Food Services	
1. Hotel revenue	Alt 2: Assumes visitation grew @ 4.57% ; Alt 3: estimate assumes hotel growth of 11.2% PLUS a new hotel, 60% occupancy, $100 per room (includes associated food/restaurant revenue), 125 rooms.
2. Food & restaurant revenue	Alt 2: Assumes visitation grew @ 4.57%; Alt 3: Assumes visitation grew @ 11.2%
H. Government Revenue	
1. License & registration fees	
3. Fishing licenses	
I. Jobs	
1. Direct lake jobs and avg. salaries	Includes Army Corps job revenue
TOTAL DIRECT IMPACT	
TOTAL INDIRECT IMPACTS	Utilizes BEA RIMS II Model Impacts
TOTAL DIRECT AND INDIRECT IMPACTS	Alt 3: Adds in indirect impacts from construction
TOTAL CONSTRUCTION SPENDING (ONE TIME REVENUE)	Construction Assumptions detailed in Appendix D
TOTAL ECONOMIC IMPACT	

West Point Lake - Marina Slip/Dock Revenue

Highland Marina	Docks	
Wet	206	
Dry	198	
Total	*404*	
Wet Dock	**% of Total Space**	
$660	10%	$66
$1,155	70%	$809
$1,595	20%	$319
Avg Annual Cost of Wet Slip		***$1,194***
Dry Dock	**% of Total Space**	
$550	10%	$55
$1,375	20%	$275
$1,045	25%	$261
$1,155	25%	$289
$1,265	10%	$127
Avg Annual Cost of Dry Slip		***$1,007***

Southern Harbor	Docks	
All Slips	260	
Total	*260*	
Docks	**% of Total Space**	
$1,925	5%	$96
$3,300	5%	$165
$3,410	5%	$171
$3,630	5%	$182
$3,740	5%	$187
$1,155	10%	$116
$1,375	15%	$206
$1,155	10%	$116
$1,485	15%	$223
$1,155	10%	$116
$1,925	5%	$96
$2,695	10%	$270
Avg Annual Cost of Slip		***$1,942***

Alternative 1: Current Water Level

664 **Current Number of Slips/Docks**
$1,380.50 **Average Price**

$916,652.00 **Marina/Slip Revenue**

Alternative 2: Higher Water Level

1,064 **Estimated Number of Slips/Docks**
$1,380.50 **Average Price**

$1,468,852.00 **Marina/Slip Revenue**

Alternative 3: Optimal Water Level

1,764 **Estimated Number of Slips/Docks**
$1,380.50 **Average Price**

$2,435,202.00 **Marina/Slip Revenue**

Calculation:
Premium-Value Added of Lakefront Lots
West Point Lake, GA

Miles of Shoreline:	525 miles
Miles of Limited Development of Protected Shoreline [1]/	288 miles
• linear feet	1,524,746 LF
Average Width – Lakefront Lot [2]/	200 LF
Remaining Lake Lots to be Developed	7624 lots
Lot Values	
Premium for a Lakefront Lot [2]/	$67,500 [3]/
Value of Remaining Lakefront Lots to be Developed if Lake Levels Attract Builders and Buyers	$514,620,000

For Alternative 2, assume 50% impact: $257,310,000
For Alternative 3, assume 95% impact: $488,889,000

Notes

[1]/ source: City of LaGrange, GA
[2]/ source: Trimble Appraisal Services, LaGrange, GA
[3]/ as a check, Trimble determined that the average recent sales price of 40 lakefront homes was $283,500, and the average sales price of 886 other Troup County homes was $139,300, a difference of $144,300 (only $67,500 is used above)

TRIMBLE
APPRAISAL SERVICES
P.O. BOX 357 LAGRANGE, GA.30241
PHONE 706-883-6554 FAX 706-883-6555

November 14, 2007

Ralph Basile
BASILE BAUMANN PROST & ASSOCIATES INC.
Nichols Center, Suite 10
177 Defense Highway
Annapolis, MD 21401-7006

Dear Mr. Basile:

Re: West Point Lake
LaGrange, Georgia

In an effort to determine the premium for lakefront lots vs. interior lots, I have employed the sales comparison method, specifically analyzing paired sales using the method of extraction. The sales adjustment process, which is at the heart of sales comparison analysis, is based on identification and measurement of the effect that the presence or absence of a characteristic has on a sale price.

Using sales from the same subdivision eliminated the location factor. The sales used in each pair were chosen because they were similar in condition and quality of construction. Data in our market is plentiful and by placing it on a sales comparison grid, adjustments can then be made for square footage, age and various amenities such as basements, pools or tennis courts. Removing these differences from the equation allows a reliable pattern to develop clustering around one figure – the premium for lakefront lots.

Sales from within the following ten subdivisions were analyzed and resulted in the lake lot premiums as shown below and outlined on the following pages:

Moss Creek	$125,000
Eagles Rest	$100,000
Foxcroft	$ 90,000
Creek Ridge	$ 75,000
Willowcrest	$ 75,000
Morgans Landing	$ 60,000
Riverside	$ 60,000
The Cloisters	$ 45,000
Graysons Landing	$ 40,000
Indian Bend	$ 30,000

1

It is assumed that if the lake were to be fully developed, it would include different price points in the future just as it has in the past. Since future values can not be predicted, it seems reasonable to measure the above value indications by the median which is a positional average that eliminates extreme indications. Therefore, the premium for a lakefront lot vs. and interior lot is indicated at $67,500.

Sincerely,

Joyce A. Trimble
Certified General Real Property Appraiser

cc: Joe Maltese - City of LaGrange

PAIRED SALES DATA ANALYSIS

The following sub-sets of data show the subdivision name, address of each dwelling, type of lot (lake or interior), sale price, square foot and age for both sales. The lake lot premium is the difference between the sale price of the lake house (i.e. $583,000 at 117 Woodchase Drive and the adjusted sale price of the interior dwelling at 110 Hunters Ridge for $458,000 = $125,000, the lake lot premium).

Subdivison	Lake Lot	Sale Price	Sq. Ft.	Age	Adjusted Sale Price	Lake Lot Premium
Moss Creek						**$125,000**
117 Woodchase Dr.	Y	$583,000	4868	17		
110 Hunters Ridge	N	$415,000	4248	8	$458,000	
Adjustments were made for square footage and age.						

Subdivison	Lake Lot	Sale Price	Sq. Ft.	Age	Adjusted Sale Price	Lake Lot Premium
Eagles Rest						**$100,000**
224 E. Yorktown	Y	$377,250	2751	22		
317 W. Yorktown	N	$265,000	2160	12	$277,000	
Adjustments were made for square footage, age and unfinished basement.						

Subdivison	Lake Lot	Sale Price	Sq. Ft.	Age	Adjusted Sale Price	Lake Lot Premium
Foxcroft						**$90,000**
2004 Foxcroft Dr.	Y	$513,000	2388	19		
1005 Foxcroft Dr.	N	$468,000	4219	25	$420,000	
Adjustments were made for square footage, age and a tennis court.						

Subdivison	Lake Lot	Sale Price	Sq. Ft.	Age	Adjusted Sale Price	Lake Lot Premium
Creek Ridge						**$75,000**
144 North Shore	Y	$313,500	2728	12		
43 Creek Ridge Dr.	N	$189,000	1761	17	$238,000	
Adjustments were made for square footage and age.						

Subdivison	Lake Lot	Sale Price	Sq. Ft.	Age	Adjusted Sale Price	Lake Lot Premium
Willowcrest						**$75,000**
230 Baywood Cr.	Y	$380,000	3374	18		
223 Baywood Cr.	N	$255,000	2633	27	$305,000	
Adjustments were made for square footage and age.						

Subdivison	Lake Lot	Sale Price	Sq. Ft.	Age	Adjusted Sale Price	Lake Lot Premium
Morgans Landing						**$60,000**
131 Morgan Drive	Y	$550,000	4240	2		
120 Morgan Drive	N	$439,900	2811	2	$490,000	

Adjustments were made for square footage and a finished basement.

Subdivison	Lake Lot	Sale Price	Sq. Ft.	Age	Adjusted Sale Price	Lake Lot Premium
Riverside						**$60,000**
509 Riverside Dr.	Y	$373,000	4002	9		
1040 Riverside Dr.	N	$350,000	2702	19	$313,000	

Adjustments were made for square footage, age and unfinished basement.

Subdivison	Lake Lot	Sale Price	Sq. Ft.	Age	Adjusted Sale Price	Lake Lot Premium
The Cloisters						**$45,000**
103 Canterbury Ct.	Y	$325,000	3369	10		
302 Canterbury Dr.	N	$249,900	2226	12	$280,000	

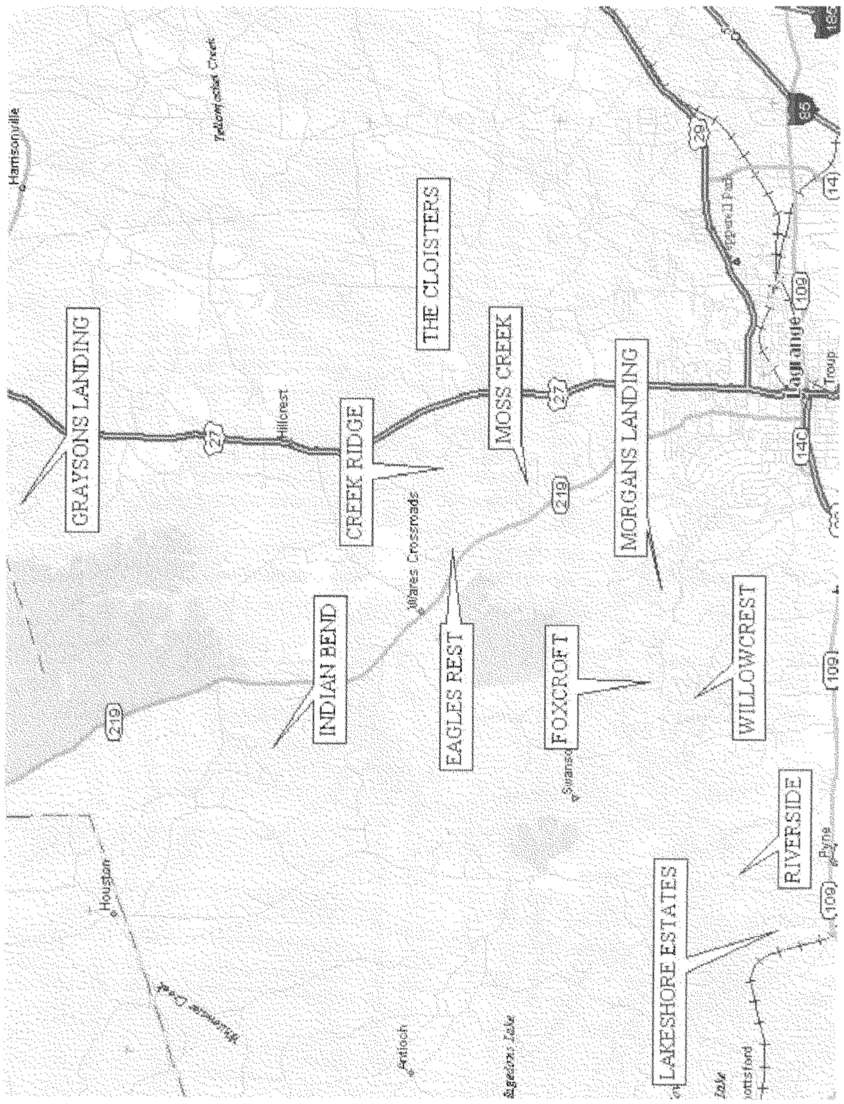
Adjustments were made for square footage and a slight adjustment for age.

Subdivison	Lake Lot	Sale Price	Sq. Ft.	Age	Adjusted Sale Price	Lake Lot Premium
Graysons Landing						**$40,000**
302 S. Grayson Tr.	Y	$198,000	1818	18		
352 Grayson Tr.	N	$140,000	1870	29	$158,000	

Adjustments were made for square footage, age and lot size.

Subdivison	Lake Lot	Sale Price	Sq. Ft.	Age	Adjusted Sale Price	Lake Lot Premium
Indian Bend						**$30,000**
155 Indian Bend Tr.	Y	$232,000	2220	8		
43 Indian Bend Dr.	N	$174,900	1584	9	$202,000	

Adjustments were made for square footage and a pool


GRAYSONS LANDING
THE CLOISTERS
CREEK RIDGE
MOSS CREEK
MORGANS LANDING
INDIAN BEND
EAGLES REST
FOXCROFT
WILLOWCREST
RIVERSIDE
LAKESHORE ESTATES
Hillcrest
Wares Crossroads
Houston
Antioch
Lagrange

Fishing Guide Fee's

Based on telephone interviews with multiple fishing guides who service West Point Lake, financial information was obtained determining the amount of fishing guide revenue that is generated annually. Currently, approximately ten (10) fishing guides operate their business at West Point Lake. Majority of the guides are considered part-time with the exception of two (2) who operate full-time and may account for 40% of total revenue of fishing guides at West Point Lake.

The following data was obtained regarding sales revenue for fishing guides:

- Fishing Guide #1 operates part-time and accounts for 10% - 15% of the fishing guide business at West Point Lake. The guide stated that he operates nearly 175 trips/year charging $475/trip. As a result, annual revenue generated from Fishing Guide #1 equates to $83,125.

  Fishing Guide #1 suggested the following information regarding full-time fishing guides and stated that another full-time guide he knows may account for nearly 15% - 20% of the fishing guide business at West Point Lake. The full-time guide operates nearly 250 trips/year charging $525/trip. As a result, annual revenue generated from the full-time Fishing Guide equates to $131,250.

- Fishing Guide #2 operates part-time and typically accounts for 10% of the fishing guide business at West Point Lake. The guide stated that he operates nearly 100 trips/year charging $550/trip. As a result, annual revenue generated from Fishing Guide #2 equates to $55,000.

- Fishing Guide #3 operates part-time and accounts for 5% - 10% of the fishing guide business at West Point Lake. The guide stated that he operates nearly 75 trips/year charging $450/trip. As a result, annual revenue generated from Fishing Guide #3 equates to $33,750.

	% of Total Fishing Guide Business	Revenue
Part Time Guide	10% - 15%	$83,125
Full Time Guide	15% - 20%	$131,250
Part Time Guide	10%	$55,000
Part Time Guide	5% - 10%	$33,750
Totals	***40% - 55%***	***$303,125***

It can be concluded that based off the information provided, 40% - 55% of the overall business generated from fishing guide services equates to about $300,000. Therefore, annual revenue generated from all fishing guides at West Point Lake is approximately $550,000 - $750,000, or on average about $650,000 per year.

Appendix D

Information on Proposed Project on Maple Creek Site:

Amendment #2 to the US Corps of Engineers
Master Plan for West Point Lake, GA

Background

The US Army Corps of Engineers commissioned a "Feasibility and Economic Study for Developing the Maple Creek Site at West Point Lake". The study concluded the following:

The time period 2000-2002 appears to be appropriate to support a 100-125 unit lodging/conference complex with an 18-hole golf course operation, and possibly a marina.

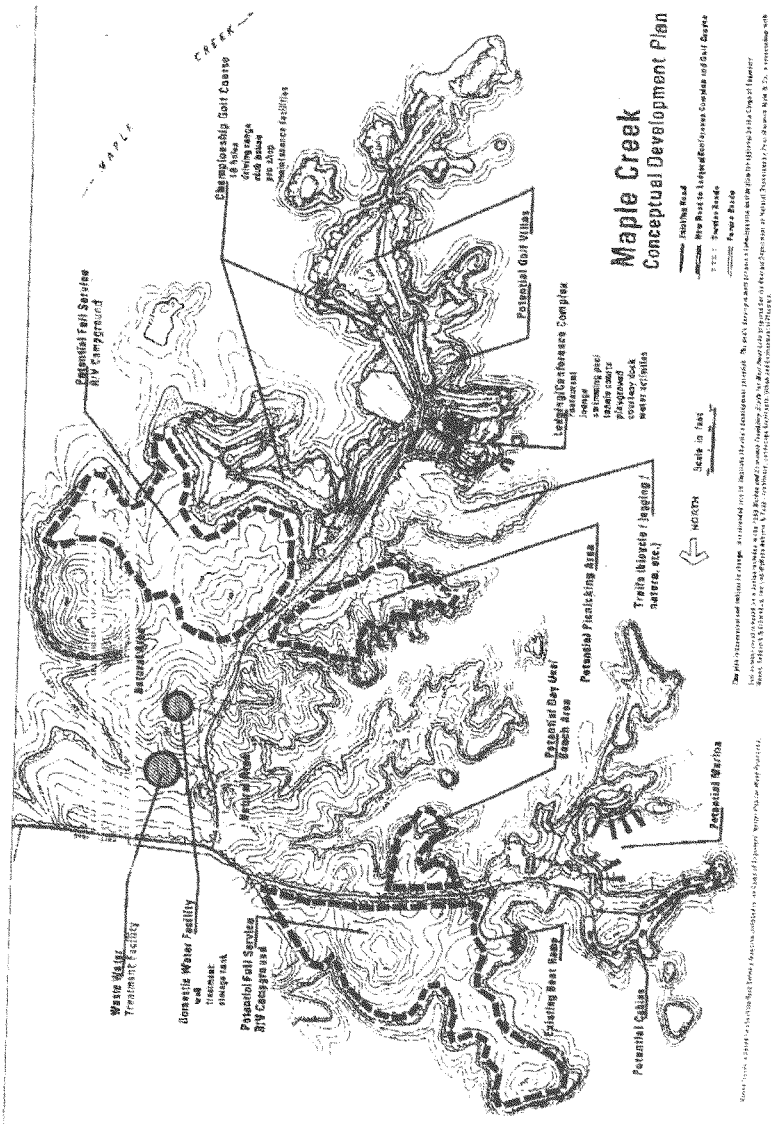
The surrounding lake offers appealing views and extensive water access...(the site offers) panoramic lake views and extensive water front access.

Additional amenities such as a campground, tennis courts, picnicking facilities, a beach and trails should be provided to enhance the overall development.

The ability to offer access to lake cruises, dinner boats, fishing excursions, pleasure craft rentals is attractive to meeting planners.

Volatile water levels, in part, likely played a role in the delay of construction of this project. Low water levels in the protected cove discouraged dock construction, and the lack of water front access and pleasurable waterfront views mitigated interest in lodging and meetings uses. These conditions, which occurred in a climate of favorable business conditions and a hospitable lending climate in the early 2000's, certainly could have contributed to missing the 2000-2002 window of market opportunity.

Since no competing facilities have been contributed elsewhere at the lake, if higher water levels could be maintained, market conditions could still lead to development of this project. Below is a summary of projected direct project costs and indirect economic impacts.


Maple Creek
Conceptual Development Plan
MAPLE
CREEK
Championship Golf Course
Potential Golf Villas
Lodge/Conference Complex
Potential Fall Service
RV campground
Potential Bay Use
Beach Area
Potential Fishing Area
Trails (bicycle / jogging / nature, etc.)
Potential Marina
Existing Boat Ramp
Potential Cabins
Waste Water
Treatment Facility
Domestic Water Facility
Potential Fall Service
RV Campground
NORTH
Scale in Feet

PROPOSED NEW FACILITIES @ MAPLE CREEK SITE: HIGH SCENARIO			
Facility	Units	Avg. Cost / Unit	Total Cost to Build
Hotel (Rooms)	125	$140,000	$17,500,000
Hotel Parking (spaces)	250	$1,500	$375,000
Meeting Space (sq.ft.)	12,000	$150	$1,800,000
Golf Course (holes)	18	$220,000	$3,960,000
Restaurant / Lounge (sq. ft.)	5,600	$100	$560,000
Campgrounds (spaces)	193	$8,000	$1,544,000
Marina (slips)	200	$7,500	$1,500,000
TOTAL			$27,239,000

RIMS II CONSTRUCTION MULTIPLIER		
Industry	Construction Multiplier	Total Yield
Agriculture	0.0023	$62,650
Mining	0.0049	$133,471
Utilities	0.0054	$147,091
Construction	1.0028	$27,315,269
Manufacturing	0.0617	$1,680,646
Wholesale Trade	0.028	$762,692
Retail Trade	0.1072	$2,920,021
Transportation	0.013	$354,107
Information	0.0299	$814,446
Finance	0.018	$490,302
Real Estate	0.0417	$1,135,866
Professional services	0.0155	$422,205
Management	0.011	$299,629
Admin	0.0148	$403,137
Education	0.0048	$130,747
Health Care	0.0481	$1,310,196
Arts, entertainment.	0.0012	$32,687
Accomodation	0.0145	$394,966
Other services	0.0142	$386,794
Total with Multipliers		$11,957,921

Economic Impact of West Point Lake at Various Lake Water Levels

Year	Cost / Hotel Room	Cost / Boat Slip
1992	$85,000	$4,500
1993	$87,550	$4,635
1994	$90,177	$4,774
1995	$92,882	$4,917
1996	$95,668	$5,065
1997	$98,538	$5,217
1998	$101,494	$5,373
1999	$104,539	$5,534
2001	$107,675	$5,700
2002	$110,906	$5,871
2003	$114,233	$6,048
2004	$117,660	$6,229
2005	$121,190	$6,416
2006	$124,825	$6,608
2007	$128,570	$6,807
2008	$132,427	$7,011
2009	$136,400	$7,221
2010	$140,492	$7,438

*Assumes 3% yearly increase

Appendix E

USACE PLAN FOR WATER LEVELS
During Recreation Season at
West Point Lake

WEST POINT PROJECT
PLAN FOR LOW WATER LEVELS
DURING RECREATION SEASON
Jul 99

1. Water levels determined to adversely impact recreational use of West Point Project during the period 1 May - 8 Sep, are as follows:

a. Normal Summer Level - 635 ft., NGVD
b. Initial Impact Level - 632.5 ft., NGVD
c. Major Impact Level - 629 ft., NGVD
d. Severe Impact Level - 627 ft., NGVD

2. Potential impacts on swimming areas, marinas, boat launching ramps, navigation, and private boat docks, and actions to be taken at each of these lake levels are listed below.

a. Initial Impact Level (632.5 ft., NGVD)

Recreational use and safety impacts become significant at or near this level. Actions to be taken are primarily concerned with cautioning the public about potential hazards and preparation for worsening conditions.

Impacts	Actions
1. Swimming area buoy lines are established at 629' NGVD. Levels at or near 632.5' NVGD render all swimming areas only marginally usable.	1. Post caution signs at beaches Advising of shallow depths and potential hazards. Cease charging fees for beach use. Monitor swimming areas for hazards.
2. Marina operators must prepare to shift docks outward to deeper water.	2. Notify marina operators and other lessees of lake level forecast, in coordination with Water Management Officials in District Office.
3. Some unmarked shoals and other potential hazards to navigation may begin to appear.	3. Monitor boating channels for hazards during weekend boat patrols. Mark significant hazards as necessary.
4. Approx. 35% of private docks become marginally usable with approximately 2' of water depth under them.	4. Coordinate with District Water Management and Public Affairs officials on periodic news releases advising the public of lake level forecast. Refer lake level inquiries to these officials.
5. Boat launching ramps may become partially blocked by silt in some locations.	5. Monitor ramp conditions and remove silt as necessary.

b. Major Impact Level (629 ft. NGVD)

Recreation and public safety impacts increase in significance at this level, and actions will be taken to identify hazards and inform the public of potentially dangerous conditions.

Impacts	Actions
1. All swimming areas become unusable.	1. Continue to monitor swimming areas for hazards.
2. Marina operators must shift boat dock positions to prevent them from becoming unusable. Approximately 40-50% of private boat docks become unusable.	2. Coordinate with District Water Management officials on issuance of news releases to inform the public of lake level forecasts and local issues such as boating and swimming hazards. Keep marina operators informed.
3. Unmarked navigation hazards continue to emerge. Some areas may become unsafe for skiing.	3. Continue to monitor lake area on weekend boat patrol. Mark hazards as necessary.
4. Approximately 10% of project boat launching ramps are impacted with less than 6' of water on the end of the concrete surface. Other ramps have frequent silt build-up. Approximately 30% of courtesy docks at ramps become unusable.	4. Monitor conditions at all boat launching ramps. Remove silt and post closure notices as appropriate. Issue news releases to identify closed ramps and direct boaters to deeper ramps.

c. Severe Impact Level (627 ft. NGVD)

Conditions worsen significantly at this level, with water-related recreation activities severely restricted. Activities such as skiing and swimming became dangerous in many portions of the lake.

Impacts	Actions
1. Water is 50-100' from the normal shoreline and access to water is limited by mud. Navigation hazards continue to emerge and skiing is limited to main bodies of the lake.	1. Continue all actions outlined above.
2. Business at local marinas, bait and tackle shops and other lake-related establishments begins to decline significantly. Boat ramp at Highland Marina becomes unusable.	2. Expand area for news releases beyond local area. Stress available recreation activities in releases.
3. Over 50% of courtesy docks at boat ramps are unusable. Problems with silt and drop-offs at boat launching ramps increase	3. Initiate scheduled work items that must be accomplished during low lake levels such as beach nourishment, shoreline protection, launching ramp extension, installation of shoal markers, etc.
4. Approximately 70% of private docks are unusable.	4. Continue public information efforts outlined above.

Testimony before the Committee on Small Business
United States House of Representatives

Tuesday, March 25, 2008
12:00 noon
Callaway Center for International Business Development
West Georgia Technical College
220 Fort Drive, LaGrange GA 30240

Written Testimony of:
Pat Stevens
Chief, Environmental Planning Division
Atlanta Regional Commission
40 Courtland Street, NE
Atlanta, Georgia 30303
Tel: 404.463.3255

Written Statement
of
Pat Stevens
Chief, Environmental Planning Division
Atlanta Regional Commission

before

The Committee on Small Business
United States House of Representatives

on

The Impact of the 2006-2007 Drought on Georgia's Economy
March 25, 2008

I. Opening

Madam Chair and Distinguished Members of the Subcommittee:

Thank you for the opportunity to testify before you on the issue of drought. I am testifying today in my capacity as Chief of the Atlanta Regional Commission's Environmental Planning Division, a position that I have held since 1985. Prior to that time I was a planner with the Atlanta Regional Commission and a planner with the Georgia Department of Natural Resources. The Atlanta Regional Commission is a metropolitan area planning and development commission for 10 counties and all the cities within in the metropolitan Atlanta area. In this capacity I am responsible for directing the agency's planning efforts in the areas of water resources programs, implementation of the Metropolitan River Protection Act, and providing planning staff for the Metropolitan North Georgia Water Planning District.

Recent drought conditions have focused much attention on the water supply in north Georgia and the operations of Federal reservoirs. I will provide testimony on the water supply situation and provide our recommendations for the future. The main focus of my comments today will be on the Apalachicola Chattahoochee Flint River Basin (ACF).[1]

II. Metro Atlanta Water Resources Background

Metro Atlanta obtains 99% of its water supply from surface water sources – rivers, lakes and streams. Groundwater is an insignificant source of water because the bedrock is typically nonporous crystalline type bedrock as exemplified by Stone Mountain granite. Although the region receives an average of 50 inches of rain a year, this rainfall can be extremely variable – as low as 30 inches to as high as 70 inches of rain a year. Because of this variable rainfall and

[1] A slideshow providing an overview presentation for the Subcommittee is attached as Exhibit A.

because there are no natural lakes in north Georgia, metro Atlanta must use manmade reservoirs to store water during rainy periods to use during times of drought.

Knowing that a major metropolitan area in north Georgia needed a major reservoir, Atlanta's Mayor Hartsfield and Georgia's Senator Richard Russell worked with the U.S. Army Corps of Engineers and the Congress in the 1940s and 50s to create Buford Dam and Lake Lanier, 50 miles northeast of the city.

Lake Lanier is the primary source of drinking water for the metropolitan Atlanta area, as it was intended to be. Indeed, the Corps has stated on numerous occasions—including in its testimony before Congress seeking authorization for the project—that the need to ensure an adequate water supply for metro Atlanta was one of the "principal" and "primary" purposes of Lake Lanier. Other authorized purposes, in addition to water supply, include flood control, hydroelectric power generation, navigation and recreation.[2]

Nearly 70% of the metro Atlanta area's water supply comes from Lake Lanier and the Chattahoochee River. About 20% of the metro area's water supply is withdrawn directly from the reservoir, while most (50%) is withdrawn from the Chattahoochee River below the dam. Although these systems do not take water directly out of Lake Lanier, they do rely on the reservoir to maintain sufficient flows in the Chattahoochee River to cover their intakes.

Lake Lanier is one of five reservoirs the U.S Army Corps of Engineers operates on the Chattahoochee River. Over three million people in metro Atlanta depend on the storage in Lake Lanier for water supply. Lake Lanier is the northernmost federal reservoir in the Apalachicola Chattahoochee Flint (ACF) River Basin. It is the single largest reservoir in the system. Many of us in the metro Atlanta region are aware that the water in Lake Lanier is a resource that must be shared. But it is also important to understand the limitations of this lake in the headwaters of the river basin.

Lake Lanier only has 5.3% of the ACF River Basin drainage area above it and it controls only a very small part of the water in the basin. This means that almost all of the rainfall that flows into the river system comes in downstream of Lake Lanier. Lake Lanier is a headwaters reservoir that controls just 9% of the total flow of the basin above the Florida line. While Lanier is 60% of the storage in the system, it is important not to overestimate the ability of this storage to make a significant difference in the river flows in Florida. Even with the influence of storage from Lanier and the other reservoirs on the system, the river as it flows into Florida is 10 times the size it is below Lake Lanier, and when it flows into the Apalachicola Bay it is typically 13 times the size it is below Lake Lanier. The small ratio of drainage area to storage volume in Lake Lanier means that, once depleted, it takes a very long time for this reservoir to refill.

Large releases might help downstream users over the short term, but large releases from Lanier to create artificially high flows in the Apalachicola River are unsustainable throughout an

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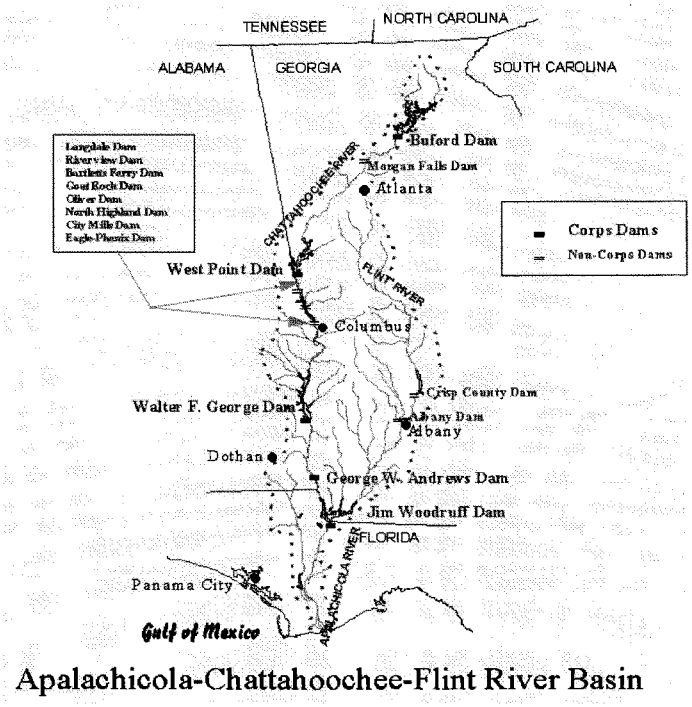
[2] *See* 33 C.F.R. § 222.5 (listing the authorized purposes of Lake Lanier and other reservoirs); *see also* "Q&A," Exhibit B.

extended drought and could imperil a critical supply of water for all of us in the ACF basin. This was made clear this past year.

Figure 1. Source USACE



Apalachicola-Chattahoochee-Flint River Basin

III. Current Drought Conditions and ACF Reservoir Operations

Conflicts and litigation among the states of Georgia, Florida and Alabama as well as drought have made the reasonable management of the ACF reservoirs increasingly difficult for the U.S. Army Corps of Engineers. Although the region is in serious drought, earlier this decade we experienced three back to back drought years that some consider worse, without as much disruption to the economy. The current drought has caused record low flows throughout the ACF River Basin, but it is the management plan implemented by the Corps in 2006 that exacerbated the impact of the drought on ACF reservoirs.

In March of 2006, the U.S. Army Corps of Engineers adopted a new operating plan called the "Interim Operations Plan for Jim Woodruff Lock and Dam," (the "IOP"). The IOP was hurriedly adopted in response to litigation threatened by the State of Florida.

As many parties protested when the IOP was first adopted, this operating plan is not sustainable because it requires large releases from reservoir storage to meet artificially high flows at the Florida line *without ever allowing the reservoirs to refill.* In budgetary terms, the IOP draws heavily on savings (water stored in reservoirs) during the summer and fall, when river flows are naturally low, without allowing savings to be replenished in the winter and spring, when river flows are naturally high. This is like running a deficit year after year without ever allowing a surplus. This unsustainable plan nearly emptied the federal reservoirs in 2007.

Although the nominal purpose of the IOP is to protect threatened and endangered species that inhabit the Apalachicola River (the threatened Gulf sturgeon and three species of threatened and endangered mussels—the threatened purple bankclimber and Chipola slabshell and the endangered fat threeridge), the plan was developed and implemented before the Corps or the United States Fish and Wildlife Service (USFWS) had collected sufficient information to understand the needs of these species. Moreover, because the plan was adopted and implemented without sufficient analysis to determine whether operations under the IOP could be sustained through a record drought such as we are currently experiencing, the plan has proved to be bad for all users, including the federally-protected species.

As required by the IOP, the lower reservoirs on the ACF were essentially drained to provide artificially high spring flows for the sturgeon and then, as the system proceeded into the drought, unsustainable releases from the conservation storage in Lake Lanier were made in the fall of 2007 to provide much of the minimum required flow to the Apalachicola River. Due to the IOP, from May to November 2007, the water delivered from the federal reservoirs on the Chattahoochee River to the Apalachicola River amounted to 220% of the river's natural, "unimpaired flow"—i.e., the flow that would have been experienced if there were no reservoirs and no depletions anywhere in the ACF River Basin—during that same time period. There were weeks last October and November that Lanier was being called upon to provide 80% of the flow in the Apalachicola River. As a result Lanier reached the lowest level on record and is still now only half full.

Although conditions in the basin have improved over the past couple of months, such that lower reservoirs have completely filled, it will take a much longer time to refill Lake Lanier because its drainage area is so small. Lanier is currently fifteen feet below full pool, which is a record low for this time of the year. Unless we have extraordinary rains over the next two months, Lake Lanier will not refill this year.

Our concern now is that Lake Lanier is lower than it has ever been at this time of year, and we may be entering the next year of a severe multi-year drought. The low level of storage places the security of the water supply for 3 million people at great risk. It also places the environment downstream at great risk. If Lake Lanier has not recovered by June 1, the result could be very detrimental to the entire ACF Basin, but especially to north Georgia.

The economic impacts to the metro Atlanta area can be directly linked to the level of Lake Lanier. The recreational economy surrounding Lanier generates over five billion dollars annually. The Lake Lanier Association is in the process of documenting the impact but initial estimates show millions of dollars in lost revenue and many job layoffs. The loss to the major water systems that depend on Lanier is estimated at $50 million. This loss is due to the outdoor water bans and the 10% reduction in use imposed by the State. We believe that much of this loss could have been avoided if Lanier had been maintained at a higher level. Finally, much of the State's revenues in the landscape and garden industry are generated by businesses in the metro Atlanta area. We believe that the low level of Lanier and the resulting outdoor water restrictions have had a direct adverse impact on this industry statewide. The economic impacts to this industry have been recently documented by the University of Georgia Center for Urban Agriculture. The losses are astounding at $260 million per month and the loss of 35,000 jobs.

IV. Metro Atlanta's water use is not the problem in the ACF.

Downstream water users cite metro Atlanta's water use as the cause of the ACF tri-state water crisis. Farmers believe there would be more water in the basin for their crops were it not for metro Atlanta; fishermen in Florida believe their livelihood is threatened because of metro Atlanta's demands for water. But these claims are not supported by the facts.

The fact is that metro Atlanta uses 1% of the annual water volume in the ACF basin during normal years and just 2% even during extreme drought. In other words, if metro Atlanta did not withdraw a single drop of water, flows at the Georgia-Florida border would improve, at best, by a mere 2%.

This is a function of the geography detailed above. Because Lake Lanier controls only 9% of the total flow of the basin above the Florida line, 91% is geographically inaccessible to the metro area. Therefore our *maximum* impact on the system—the impact that would result if the area consumed 100% of the water that passes through Lake Lanier without returning anything to the system—would be to reduce the flow of the Apalachicola River by just 9%. In reality, of course, we use only a fraction of the flow that is actually accessible to us, and we return the majority of the water withdrawn. That is why our total impact is on the order of just 1 to 2%.

Furthermore, Metro Atlanta is not even biggest user in the ACF Basin. Consider the following:

- Depletions to the Flint River due to agricultural irrigation in South Georgia average approximately 268 mgd (415 cfs), which is about 66% more than metro Atlanta's net water consumption. Total agricultural withdrawals for irrigation are even higher. The number cited above is the total depletion of surface waters in the Flint River due to the combination of surface and groundwater withdrawals.

- Metro Atlanta's net water withdrawal is 162 million gallons per day (mgd) or 250 cubic feet per second (cfs).

- The State of Florida has authorized a large interbasin transfer from the lower Chipola River, a tributary to the Apalachicola River, to the town of Port St. Joe. The Florida Department of Environmental Protection has stated that the withdrawal varies monthly but can reach a monthly high of 126 cfs. Therefore, it appears the very small town of Port St. Joe is diverting about half as much water from the ACF River Basin (and from the Apalachicola Bay) as is used by the entire Atlanta metropolitan area combined. *See* Florida DEP, *See* 2005 *Water Quality Assessment Report for the Apalachicola-Chipola* at 31 & 94. Florida DEP has acknowledged that the water diverted to Port St. Joe "is transferred out of the basin and could affect salinity levels in the Apalachicola Bay." *Id.*

V. Water conservation by all users in the ACF Basin is crucial to protect our precious water resources.

In order to protect our precious water resources, all users in the ACF Basin must practice conservation--that includes municipal, industrial and agricultural users.

That said, conservation has different effects and is important for different reasons for different users within the basin. For example, water conservation within the metropolitan Atlanta area has a negligible impact on river flows at the Florida line. As has already been explained above, if the entire metropolitan area ceased to use water altogether, flows at the Florida line would increase by only 1 to 2%. Nonetheless, conservation in the metropolitan area is vitally important to protecting the water supply of the metropolitan area and protecting our immediate downstream neighbors such as West Point Lake. We cannot expect to meet existing and future demands without practicing best-in-class conservation. Therefore the metropolitan Area is strongly motivated and fully committed to conservation even though we understand that our efforts will have no perceptible benefit to the Apalachicola River.

A. Metro Atlanta Recognizes the Need to Adopt Aggressive Conservation Measures

Metro Atlanta is doing its part and making significant progress in water conservation efforts. Sixteen counties, 98 cities and 61 water systems are working within the Metropolitan North Georgia Water Planning District to develop and implement an aggressive water conservation program. This plan, developed in 2003 through the District, has been approved by the Georgia Environmental Projection Division and adopted by local governments.

All jurisdictions in the District are committed to implementing the top ten water conservation measures that have been identified for water savings and cost effectiveness:

- Conservation pricing (the more you use, the more you pay). Ninety-eight percent of the water district's population is subject to increasing or tiered rates.

- Replacement of old toilets. The District has just launch a cooperative toilet rebate program that covers one of the largest areas in the nation.

- Reduction of water system leaks.

- Rain sensor shut-offs for irrigation systems.
- Pre-rinse spray valves for commercial restaurants and food service operations.
- Sub-unit meters in new multi-family buildings.
- Residential water audits.
- Low-flow retrofit kits.
- Commercial water audits.
- Education and outreach.

The District requirements when coupled with other State and Federal activities are projected to reduce water withdrawals by 20% when fully implemented.

The State of Georgia displayed foresight and leadership by enacting in 2004 a drought management plan that authorized the state to impose restrictions on outdoor water use during times of drought. Under this plan outdoor water use is restricted to three days per week during non-drought periods. In drought, the State has the authority to further reduce outdoor water use. In October 2007, during the severe drought, the State imposed a ban on virtually all outdoor water use in the northern third of Georgia. In addition, the Governor mandated a 10% reduction in withdrawals for all water utilities and other permit holders in North Georgia. Those measures have recently been revised to authorize local governments to allow some limited outdoor water use.

While metro Atlanta has made progress in water conservation and will continue to make progress, it is incumbent that ALL users in the basin adopt conservation measures aimed at reducing water usage over time. Metro Atlanta is doing its part, but we must all play a role.

B. Agricultural Users Must Adopt Reasonable Conservation Measures As Well

No discussion of water management in the ACF would be complete would be complete without a discussion of agricultural withdrawals and their effects on the flow of the Flint River. Although most agricultural withdrawals in the ACF are from groundwater, these withdrawals reduce baseflow into the tributaries of the Flint River and thus have a major impact on surface water levels. Agricultural withdrawals in Southwest Georgia, Southeast Alabama and Northwest Florida are largely unregulated. These withdrawals have a major impact on the operation of the system.

According to the 2006 Flint River Basin Regional Water Development and Conservation Plan ("FRP Plan") adopted by Georgia Environmental Protection Division ("EPD"), as much as 250 mgd (357 cfs) may be withdrawn for irrigation from surface waters during peak irrigation months. FRB Plan at 15. Groundwater withdrawals also have a major impact on stream flows, reducing stream levels by as much as 257 mgd (398 cfs) at peak season. Therefore, according to the data in this plan, the total impact on stream flows during the peak irrigation months is in the range of 507 mgd (786 cfs). The average annual impact therefore appears to be in the range of

268 mgd (415 cfs).[3] In contrast, the average annual consumptive use for the entire metropolitan Atlanta area is just 161 mgd (250 cfs).

The situation with agriculture raises an important question about the authorized purposes of Lake Lanier and the other federal reservoirs. Although the federal reservoirs on the Chattahoochee are not authorized to support irrigation, they are in fact being used to support irrigation in the Flint River Basin to a large degree. This is a direct result of the Corps' decision to operate the Chattahoochee reservoirs to meet a single minimum flow target at the Chattahoochee gage in the Apalachicola River. Because the flow at this point is made up of the combined flow of the Flint River and the Chattahoochee River, for any depletion of the Flint River an equivalent amount must be supplied from the Chattahoochee River to meet the minimum flow requirement. Thus, by agreeing to meet a single minimum flow regardless of the flow of the Flint River, the Corps has, in effect, agreed to use reservoir storage to supplement any reduction in flows caused by agricultural withdrawals in the Flint River Basin. This unauthorized use of the federal reservoirs is having a significant impact on other authorized purposes and on the system as a whole.

C. The Corps Must Also Adopt Reasonable Conservation Measures

Although we recognize that water conservation is essential, the fact is that we cannot conserve our way out of the current crisis. The amount of water that can be saved through conservation pales in comparison to the amount that is continuing to be wasted through improper reservoir operations. It is literally a drop in the bucket.

From the standpoint of Corps operations, the Corps needs to conserve storage to the maximum extent possible. The Corps also needs to draw on its expertise to manage the system wisely. This is especially critical now, given the extreme drought conditions.

VI. Recommendations for Reservoir Operations

We recommend that the Corps adopt a three-step recovery plan for Lake Lanier and for the entire ACF reservoir system. The first step is to adopt an emergency recovery plan to weather the current crisis. The second step is to replace the IOP with a better, more sensible plan to ensure we do not repeat the mistakes of 2006-2007. The third step, for the longer term, is to adopt a comprehensive water control plan for the ACF Basin that is based on facts and sound science.

A. Continue the Emergency Operations Plan Until All of the Reservoirs Refill

The Corps took the first step on November 15, 2007 by adopting a recovery plan known as the Exceptional Drought Operations Plan (EDO). The EDO suspends restrictions in the IOP that prevent the reservoirs from refilling. The EDO also reduces the minimum flow requirement for the Apalachicola River to more reasonable levels.

As proposed by the Corps, the EDO would be a permanent feature of the IOP that would be triggered whenever reservoir storage is depleted to certain levels and would remain in effect until

[3] See *Streamflow Depletions in the Flint River Basin Caused by Irrigation Pumping from the Floridan Aquifer in Drought Years*, Exhibit C.

the reservoirs have recovered. The United States Fish and Wildlife Service (USFWS) has only approved the EDO through June 1, 2008. Therefore, if the EDO is not extended, there is a good chance that operations will revert back to the unsustainable IOP on June 1 *even if Lake Lanier has not yet recovered.* This would be disastrous indeed. Therefore it is essential to continue the EDO beyond June 1.

In addition, the "trigger" for determining when normal operations should resume (i.e., when operations under the EDO should cease) needs to be changed. Currently the IOP is triggered when the "composite storage" reaches "composite zone 2." Composite storage is a measure of the total amount of water in storage in all of the reservoirs. This measure is flawed because it is possible for composite storage to be relatively high even when storage in Lake Lanier is relatively low. In February 2008, for example, the lower reservoirs were full—and "composite storage" was approaching composite Zone 2—while Lake Lanier was still in its lowest zone. The EDO should be continued at least until *each reservoir* is in zone 2.

B. The Corps Should Adopt a New Interim Plan to Replace the IOP After the Reservoirs Have Recovered

The IOP should be replaced with a new *sustainable* operating plan. This cannot wait for the development of a long-term plan.

The combined effect of the IOP and the EDO is to keep the reservoirs in the lower zones for an extended period of time. The reservoirs might not empty, thanks to the emergency relief provided to the EDO, but the IOP will take effect to prevent them from refilling before they are ever allowed to completely refill. This type of plan will not benefit anybody.

C. New water control plans based on facts and sound science must be adopted by the Corps for the ACF reservoirs.

In the longer term, we need a comprehensive new water control plan based on facts and sound science. The Corps has recently announced that they are going to update the Water Control Manuals for the Apalachicola Chattahoochee Flint River Basin.

The Atlanta Regional Commission and the metro Atlanta area Water Supply Providers that depend on Lake Lanier strongly support the Corps' current initiative to update water control plans for the ACF Basin. We support this effort because we believe that the update process can lead to a more balanced approach for the river basin. We also believe that the ACF basin has sufficient water to meet the reasonable demands of all users—including towns and cities, power generation, farmers and fishermen and endangered species.

As the Corps reviews operational approaches we would like to provide one alternative for consideration. This approach was developed with the support of ARC and the metro water supply providers and is call the "Maximum Sustainable Release Rule." A summary explanation of this proposal is attached as Exhibit D. Our analysis shows that the alternative we propose would be better for *all parties*, including the endangered species that inhabit the Apalachicola River.

The Corps should be encouraged to study this and other alternatives as it develops the new water control plans for the ACF Reservoirs. The Corps should also be encouraged to collaborate with its stakeholders. The ARC and the metro-area water providers stand ready to cooperate with the Corps and with the other stakeholders to find creative, constructive solutions to this long-standing controversy.

VII. Thank you and Closing

Madam Chair, thank you for allowing me to provide testimony on this important issue. The Atlanta Regional Commission and the Metropolitan North Georgia Water Planning District look forward to being a part of solutions that will help reduce the impacts of future droughts on the metro Atlanta area and the State of Georgia

EXHIBIT A

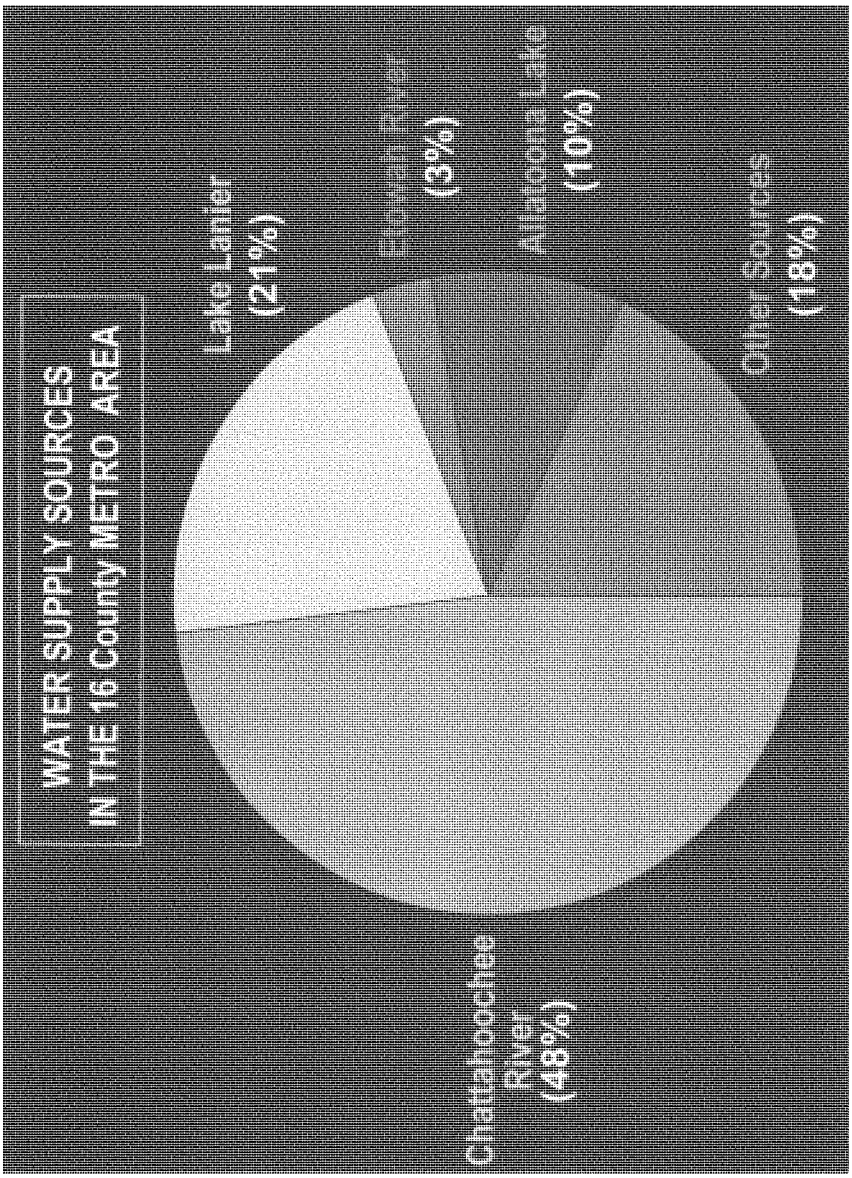
Pat Stevens

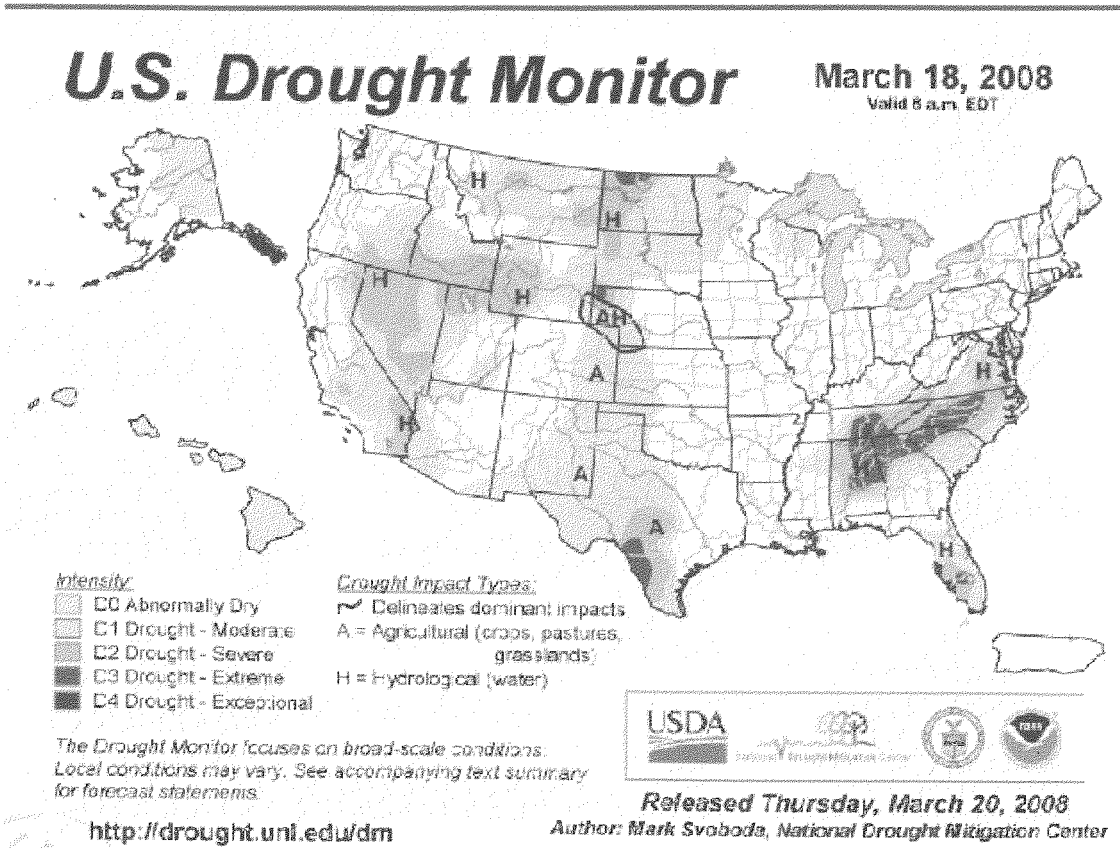
Atlanta Regional Commission

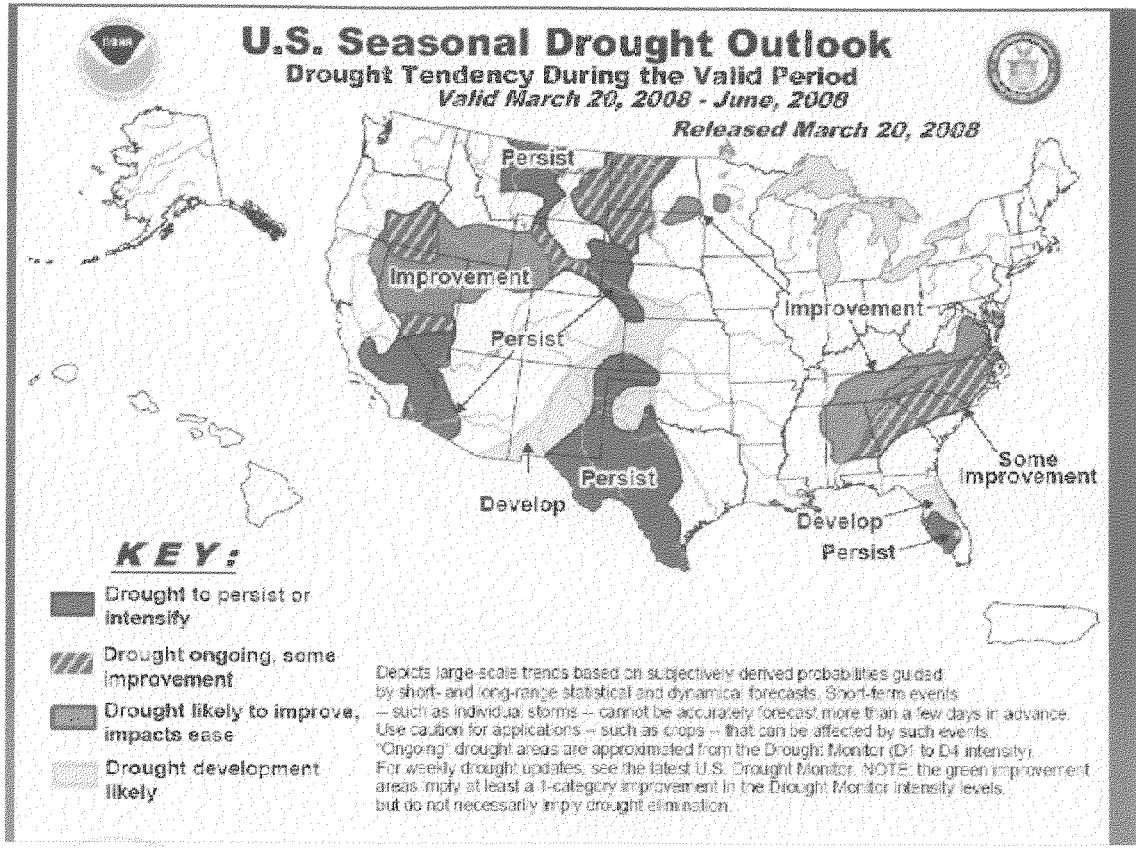
Drought Impacts Testimony

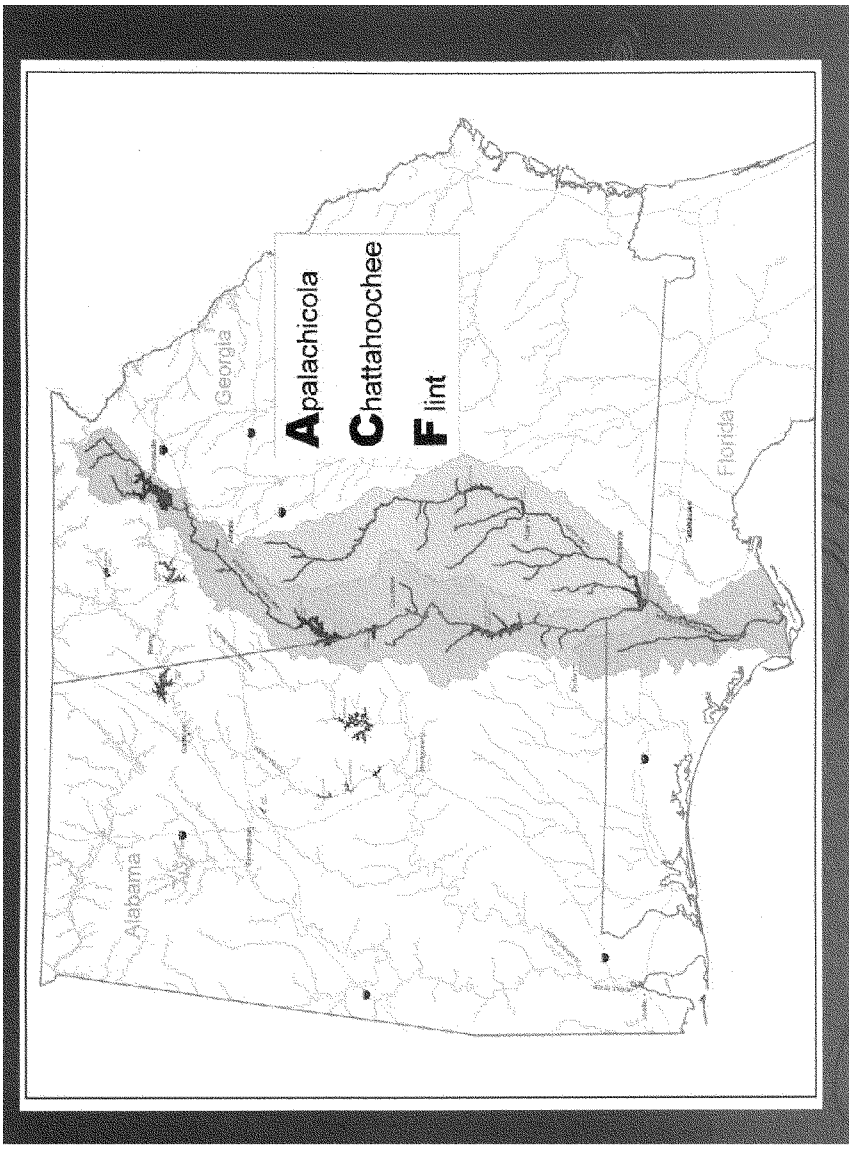
March 21, 2008

Water sources
• Surface water sources main source of supply
• Groundwater limited due to bedrock


WATER SUPPLY SOURCES
IN THE 16 County METRO AREA
Lake Lanier
(21%)
Chattahoochee
River
(48%)
Other Sources
(18%)

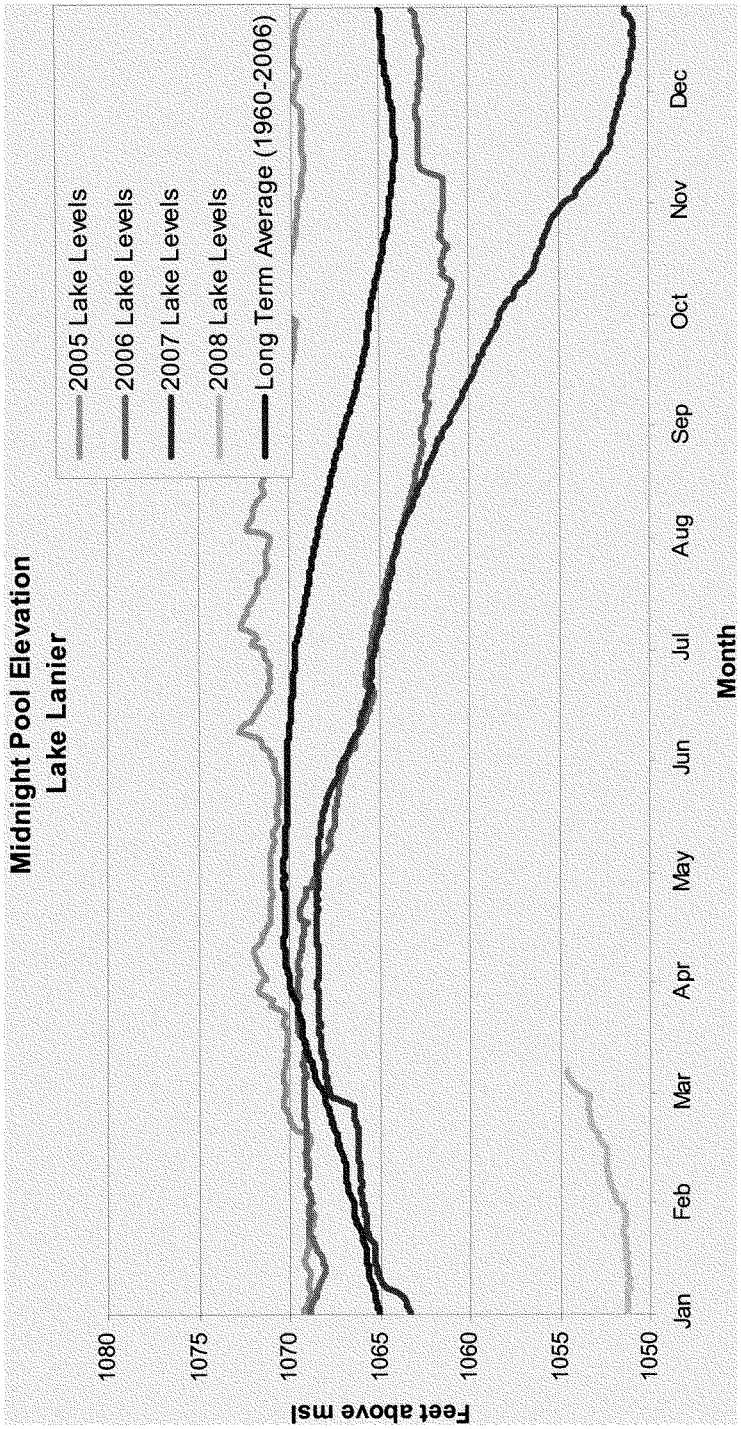

U.S. Drought Monitor
March 18, 2008
Valid 8 a.m. EDT
Intensity:
D0 Abnormally Dry
D1 Drought - Moderate
D2 Drought - Severe
D3 Drought - Extreme
D4 Drought - Exceptional
Drought Impact Types:
Delineates dominant impacts
A = Agricultural (crops, pastures, grasslands)
H = Hydrological (water)
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.
http://drought.unl.edu/dm
USDA
Released Thursday, March 20, 2008
Author: Mark Svoboda, National Drought Mitigation Center


U.S. Seasonal Drought Outlook
Drought Tendency During the Valid Period
Valid March 20, 2008 - June, 2008
Released March 20, 2008
Persist
Improvement
Persist
Improvement
Persist
Develop
Some Improvement
Develop
Persist
KEY:
Drought to persist or intensify
Drought ongoing, some improvement
Drought likely to improve, impacts ease
Drought development likely
Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: the green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.


Apalachicola
Chattahoochee
Flint
Georgia
Alabama
Florida

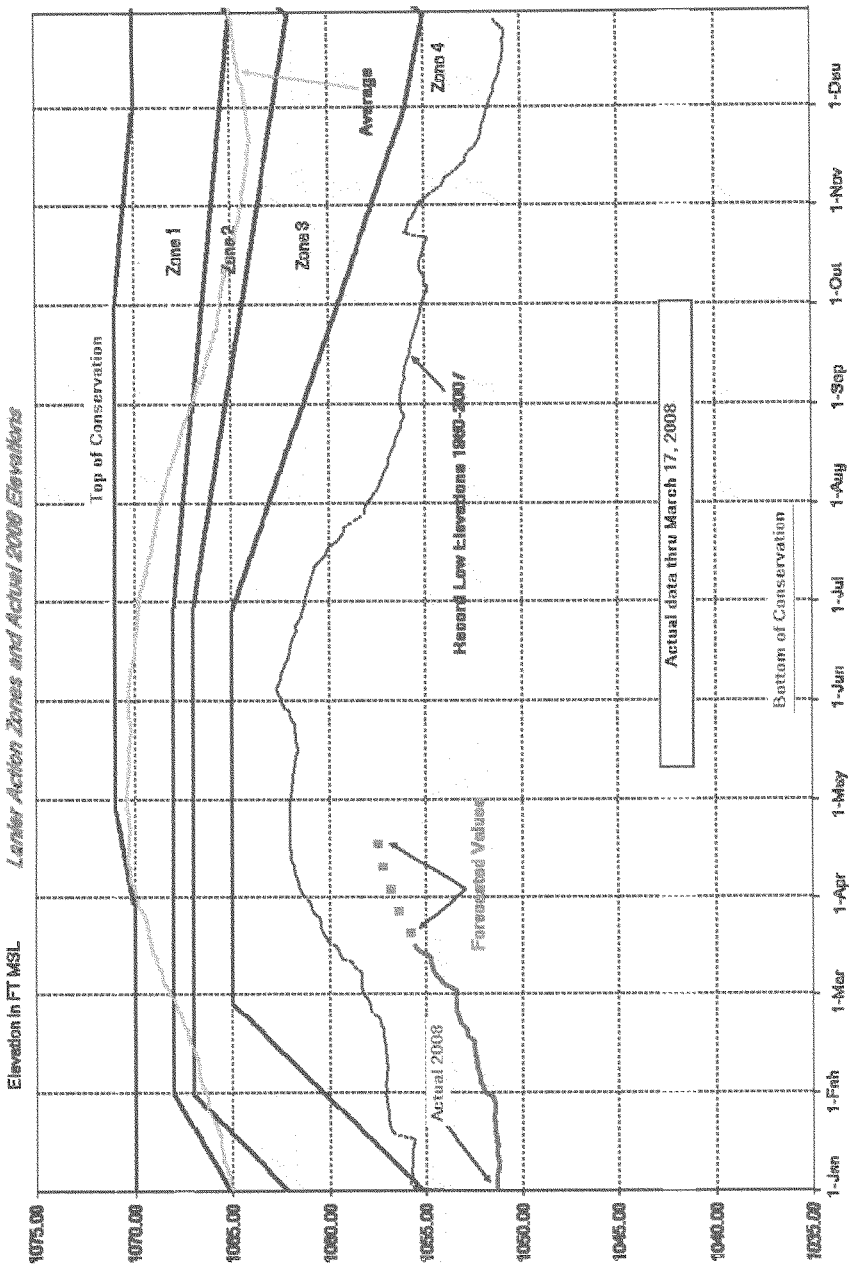
Corps Interim Operations Plan for ACF
(IOP)
Adopted March, 2006
Restrictions on reservoir storage, prevents reservoirs from refilling
Draws from storage to supplement flows in Florida (6000cfs)
Unsustainable during dry conditions
The IOP drained the lakes
Discharged 100% of inflow and 74% of storage
Delivered 42% of natural flow to Apalachicola

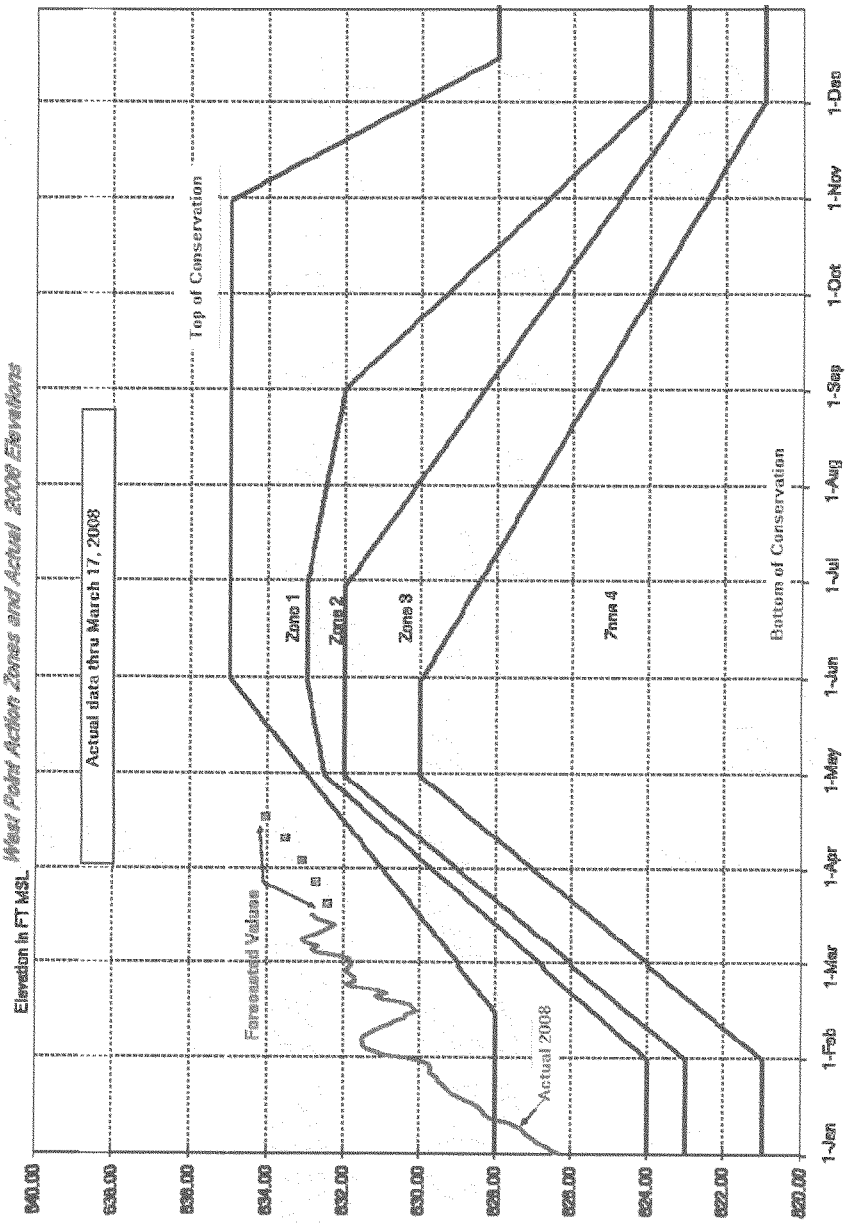
ACF - Corps Emergency Drought
Operations (EDO)
Suspends limitation on storing water in
reservoirs until composite storage reaches
top of Zone 3
Reduces supplemental flows to Florida
(4150 cfs)
Until June 1, 2008

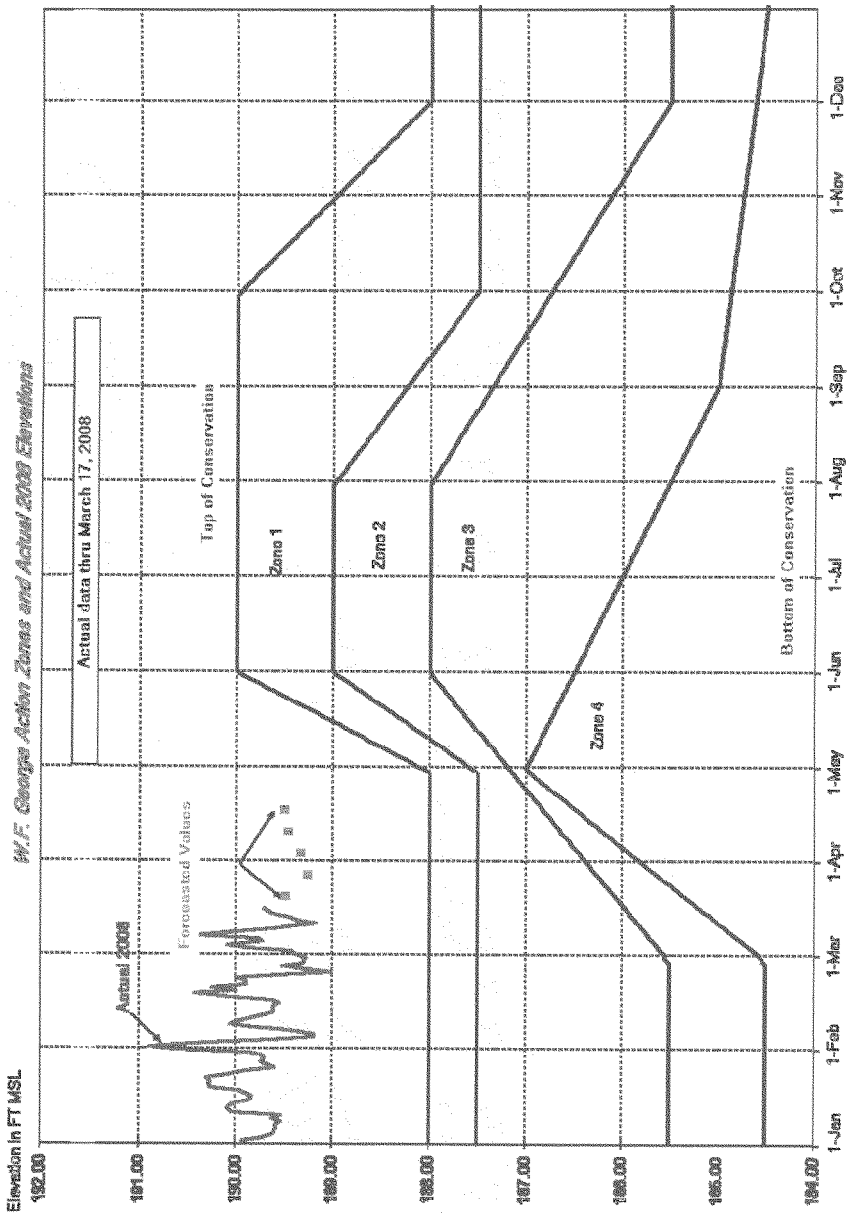

Midnight Pool Elevation
Lake Lanier
2005 Lake Levels
2006 Lake Levels
2007 Lake Levels
2008 Lake Levels
Long Term Average (1960-2006)
Feet above msl
1080
1075
1070
1065
1060
1055
1050
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Month

Economic Impacts
Landscape and Garden Industry
Water Based Recreation
Water System Lost Revenue

Federal Reservoirs in Metro Atlanta
Lanier reached record low on December 26, 2007 (1050.79)
Lanier is currently 1056 and expected to rise slightly over the next month
Allatoona is currently 839 and expected to be stable over the next month


Lake Acton Zones and Actual 2008 Elevations
Elevation in FT MSL
Top of Conservation
Zone 1
Zone 2
Zone 3
Zone 4
Average
Record Low Elevations 1930-2007
Actual 2008
Forecasted Values
Actual data thru March 17, 2008
Bottom of Conservation
1075.00
1070.00
1065.00
1060.00
1055.00
1050.00
1045.00
1040.00
1035.00
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
1-Oct
1-Nov
1-Dec


West Point Action Zones and Actual 2008 Elevations
Elevation in FT MSL
640.00
638.00
636.00
634.00
632.00
630.00
628.00
626.00
624.00
622.00
620.00
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
1-Oct
1-Nov
1-Dec
Actual data thru March 17, 2008
Top of Conservation
Bottom of Conservation
Zone 1
Zone 2
Zone 3
Zone 4
Forecasted Values
Actual 2008


W.F. George Action Zones and Actual 2008 Elevations
Elevation in FT MSL
192.00
191.00
190.00
189.00
188.00
187.00
186.00
185.00
184.00
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
1-Oct
1-Nov
1-Dec
Actual 2008
Forecasted Values
Actual data thru March 17, 2008
Top of Conservation
Zone 1
Zone 2
Zone 3
Zone 4
Bottom of Conservation

Other Local Small Lakes
Smaller reservoirs
Cherokee – 92% of storage left
Clayton – 100% of storage left
Douglas – 100% of storage left
Fayette – Kedron 94%, Horton 62%
Henry – 90% of combined storage left
Rockdale – 95% of storage left
Palmetto – 100% of storage left

Aggressive water
conservation is a
CRITICAL element of
our future
YEAR 1
YEAR 2
YEAR 3

District Water Conservation Measures
Conservation pricing
Replace old inefficient toilets
Assess and reduce system leakage
Rain sensor legislation
Low flow pre-rinse restaurant spray valves
Sub-unit meter in new multi-family buildings
Conduct residential water audits
Distribute low-flow retrofit kits
Conduct commercial water audits
Education and public awareness

Maximum Sustainable Release
Rule: Three Main Principles
1. Base reservoir releases on a "Balanced Budget Rule"
Consider available reservoir storage and forecasted inflow
Provide a 90% probability of refill by June 1
2. Maintain "Reserve Storage" as a failsafe
3. Adjust operations to meet specific operational objectives

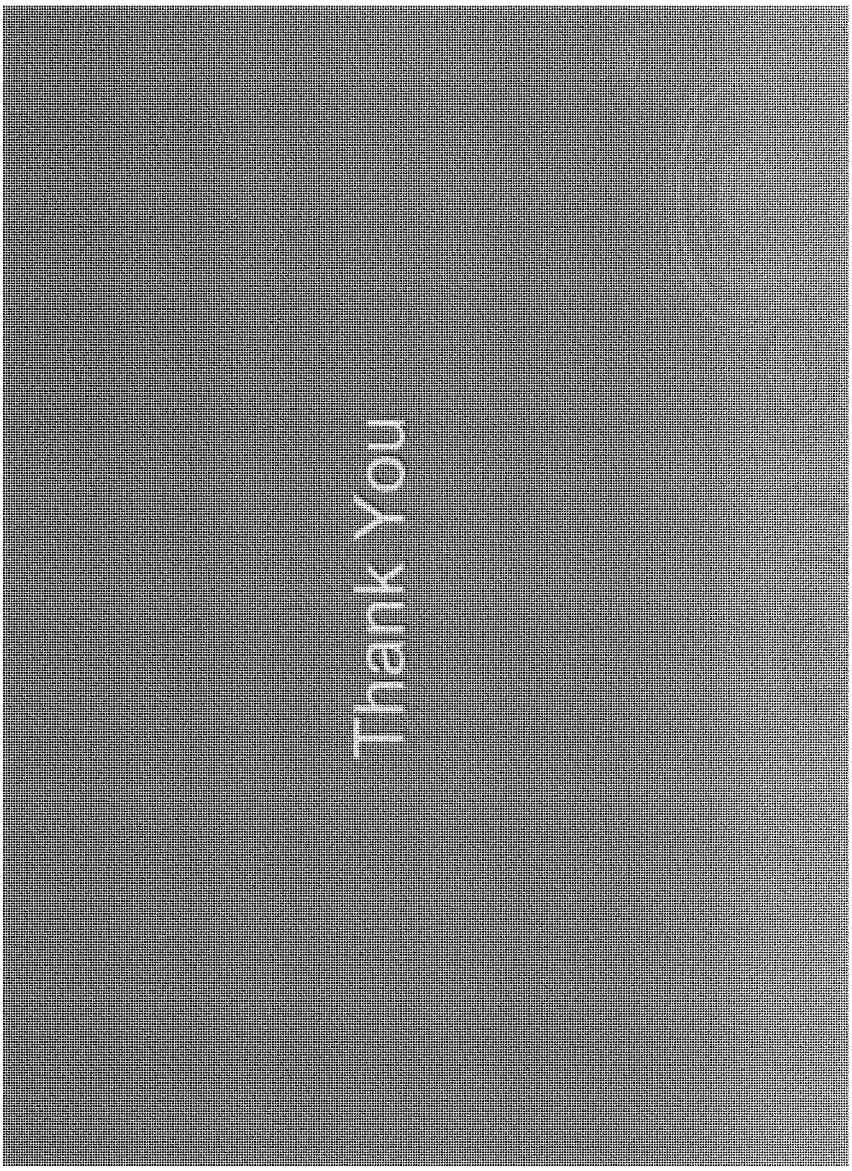

Thank You

EXHIBIT B

Q&A re Authorized Purposes of Buford Dam
Lewis B. Jones, King & Spalding LLP
March 11, 2008

QUESTIONS

ANSWERS

1. Questions about the authorized purposes for Buford Dam

1.1. What are the authorized purposes of Buford Dam and Lake Lanier?

The authorized project purposes for the reservoir are: flood control; hydroelectric power generation, navigation, recreation, water quality, water supply, and, fish and wildlife conservation.

1.2. Does any official document specifically enumerate the "authorized purpose" of Buford Dam? If so, what does it say?

Short Answer: The Corps' official position regarding the authorized and operating purposes of its projects is set forth in the Code of Federal Regulations at 33 C.F.R. § 222.5. This regulation identifies "municipal and industrial water supply" as one of the "authorized" and "operating" purposes of Lake Lanier.

Long Answer:

Neither the authorizing legislation nor the documents referenced by the authorizing legislation enumerate specific "authorized purposes." In fact, this terminology was not even used by the Corps in 1946 when Buford Dam was authorized by Congress.

However, the Corps' official regulations enumerate the "authorized" and "operating" purposes for each and every one of its reservoirs. **This regulation identifies "Municipal and/or Industrial Water Supply" as a "Project Purpose" of Buford Dam and Lake Lanier.** *See* 33 C.F.R. § 222.5.

The Corps promulgated these regulations response to a congressional mandate. Section 311 of the Water Resources Development Act of 1990, Pub. L. No. 101-640 ("WRDA 1990"), directed the Secretary of the Army to "conduct a study of the operations of reservoir projects which are under the jurisdiction of the Secretary (1) to identify the purposes for which each such project is authorized; and (2) to identify the purposes for which each such project is being operated." The report—*Authorized and Operating Purposes of Corps of Engineers Reservoirs* (First Printing July 1992, *Second Printing* (with revisions not related to Buford Dam) November 1994)—was issued in 1992. The 1992/1994 Report specifically distinguishes "authorized purposes" from "incidental purposes." The report identifies "water supply" as an "authorized purpose" of Buford Dam based on the original authorizing legislation. See id. at E-74. The report is the basis of the information published in the Code of Federal Regulations.

1.3. What does the authorizing legislation say about the purposes of the project?

Short Answer: Nothing.

Long Answer:

Buford Dam and Lake Lanier. Buford Dam and Lake Lanier were authorized by the Rivers and Harbors Act of 1945 (PL 79-14,) as amended by Section 1 of the Rivers and Harbors Act of 1946 (P.L. 79-525). This legislation does not, however, provide any details about the project or its authorized purposes.

Both bills were omnibus bills in which Congress "adopted" and "authorized" certain water projects "to be prosecuted under the direction of the Secretary of War and supervision of the Chief of Engineers, in accordance with the plans and subject to the conditions recommended by the Chief of Engineers in the respective reports herein designated." 60 Stat. 634. The list of authorized projects included certain works within the Apalachicola Chattahoochee Flint ("ACF") River Basin, including the Buford Project, which were to be prosecuted in accordance with "the report of the Chief of Engineers, dated May 13, 1946." (JA0834).

1.4. What do the "project documents" referenced in the authorizing legislation say about the authorized purposes of Buford Dam?

Short Answer: The say that water supply for the Atlanta area was one of the purposes of the project.

Long Answer:

The Rivers and Harbors Act of 1946 authorized Lake Lanier/Buford Dam to be constructed in accordance with "the report of the Chief of Engineers, dated May 13, 1946." The report of the Chief of Engineers, which Congress approved, is a 7-page report generally recommending approval of a study prepared by the Division Engineer. *See* H.R. Doc. No. 80-300 (1947). With respect to Buford Dam, the Chief of Engineers noted that "**[t]he city of Atlanta and local interests in that area urge that a reservoir be constructed above Atlanta to meet a threatened shortage of water for municipal and industrial purposes.**" *See* Chief of Engineers' Report ¶ 9. The Chief of Engineers further explained that the Division Engineer had proposed construction of just such a dam: specifically, that he had proposed construction of the Buford Reservoir on the Chattahoochee River that would, among other things, "**assure an adequate supply of water for municipal and industrial purposes in the Atlanta metropolitan area**." *See* Chief of Engineers' Report ¶ 11(d). Finally, the Chief of Engineers generally recommended that the previously-authorized plan for the development of the ACF basin "be modified to provide for construction of Buford multiple-purpose reservoir . . . in accordance with the plans of the Division Engineer." Chief of Engineer's Report ¶ 16.

The Chief of Engineers, in turn, recommended approval of a "Survey Report" prepared by the Division Engineer. The Survey Report explains the recommended plan of development together with its expected benefits.

1.5. What did the "survey report" approved by the Chief of Engineers say about the authorized purposes of Buford Dam?

Short Answer: that the proposed project would provide "assured water supply for the city of Atlanta."

Long Answer:

The 1946 "Survey Report" by the Division Engineer is an extensive document that explored all aspects of the planned developments for the Chattahoochee River. Despite the breadth of its focus, the Survey Report discussed the water supply needs of metropolitan Atlanta in some detail. *See* Division Engineer's Survey ¶¶ 79-80, *reprinted in* H.R. Doc. No. 80-300 (1947) at 34.[1]

Paragraph 79 of the Survey Report provided estimates of the region's present and projected future water supply demands. Paragraph 80 described how Buford Dam might operate to meet these demands. To meet the area's then "present needs," the Division Engineer recommended that the dam release up to 600 cfs for withdrawal near Atlanta. *See id.* ¶ 80. The Survey Report had already explained, however, that the area's projected future demands for municipal and industrial water supply would reach 800 cfs by the year 1965. *See id.* ¶ 79. Thus, the Division Engineer suggested that adjustments to the 600 cfs maximum release would probably have to be made in the future to accommodate increasing demand as the area developed. *See id.*

The Division Engineer also considered the trade-off between the need to make such adjustments and the impact on hydropower. He first noted that a small off-peak generator could be installed to capture the energy that would otherwise be lost by virtue of water supply releases. *See id.* He also noted, however, that increases in water supply releases in the future would impinge somewhat on power returns from the dam. *See id.* He did not view this as a problem. Instead, he noted that such adjustments would not materially affect returns from the dam and would not affect downstream power benefits at all. *See id.* In any event, the Division Engineer concluded that **"the benefits to the Atlanta area from an assured water supply for the city and the Georgia Power Company's steam plant downstream would outweigh any slight decrease in system power value."** *See id.*

1.6. What did the Army Corps of Engineers tell Congress about the purposes of the project when it requested authorization for it?

Short Answer: That "water for the City of Atlanta" was one purpose of the project.

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[1] The Division Engineer's Survey was reprinted, along with the recommendation of the Chief of Engineers, in H.R. Doc. No. 80-300 (1947). Note, however, that House Document 80-300 was complied in 1947, after the vote on authorization. For this reason, it includes documents from both before and after the vote on authorization.

Long Answer:

When asked about the authorized purposes of the Buford Project, the Corps specifically stated that it was a multiple-purpose project that would provide "water for the city of Atlanta":

> Q: Is this a power project mainly?
>
> A: Colonel Feringa: This is basically a multiple-purpose project. **** [T]here is proposed a multiple purpose dam at the Buford site which would provide power; **also water for the city of Atlanta....**"

Hearings on Rivers and Harbors Bill (May 3, 1946). This exchange is the only instance during the pre-authorization hearing that the authorized purposes of Buford Dam were discussed.

1.7. What did the Army Corps of Engineers tell the State of Georgia about the purposes of the project when it requested the State's support for the project?

Short Answer: The Corps of Engineers told Governor Arnall that the project for which it sought authorization would "ensure adequate municipal and industrial water supply for the Atlanta metropolitan area."

Long Answer: In its consultation with the Governor of the State of Georgia prior to submitting its recommendation to Congress, the Corps stated the Buford Project would "ensure adequate municipal and industrial water supply for the Atlanta metropolitan area." Specifically, the Corps told Governor Arnall that it was recommending ...

> [T]hat a multi-purpose reservoir be provided on the Chattahoochee River at the Buford site, about 45 miles above Atlanta, to regulate the stream flow for navigation below Columbus and for the economical operation of the existing and proposed power plants downstream, **to ensure adequate municipal and industrial water supply for the Atlanta metropolitan area**, and to reduce flood stages and damages in the valley below.

See Letter of Ellis Arnall, Governor of the State of Georgia to Chief of Corps Engineers (April 29, 1946).[2]

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[2] Governor Arnall's letter pre-dates the report of the Chief of Engineers, which was issued on May 13, 1946. The State's comments were based on the survey prepared by the Division Engineer.

Note that Congress specifically directed the Corps to consult with the State before submitting any plans, proposals or reports to Congress. *See* Pub. L. No. 79-14 (1945) § (a). Congress directed the Corps to consult with the State because it recognized the "interests and rights of the states in the development of the watersheds within their boundaries." *See id.* For this reason, the Corps "traditionally defers to the adverse view of a Governor on a proposed project located in his or her state." *See* EP 1165-2-1 ¶ 3-3 ("Opposition by a State") (July 30, 1999). *See also* Pub. L. No. 79-14 (1945) § (a). If the Corps were to recommend a project over a Governor's objection, the Governor's opposition would have to be fully documented and submitted to Congress. *See id. See also* Pub. L. No. 79-14 (1945) § 2. Therefore it is highly significant that the Corps described the project as a water supply project in its communications with Governor Arnall.

1.8. What did the Army Corps of Engineers tell the public when it requested support for this project prior to its authorization?

Short Answer: That the proposed project would "ensure an adequate municipal and industrial waters supply for the Atlanta metropolitan area."

Long Answer: The public notice stated the following about Buford Dam:

> "[T]he report recommends ... that a multiple purpose reservoir be provided on the Chattahoochee River at the Buford site ... to regulate the stream flow for navigation below Columbus and for the economical operation of the existing and proposed power plants downstream, **to ensure an adequate municipal and industrial water supply for the Atlanta metropolitan area**, and to reduce flood stages and damages ..."

Public Notice (March 30, 1946)

1.9. What did the Corps say about the purposes of the Buford Project in the "Definite Project Report"—the report that was the basis of congressional appropriations for Buford Dam?

Short Answer: that water supply was one of the "principal" and "primary" purposes of the project that Congress authorized.

Long Answer:

The Definite Project Report for Buford Dam describes the authorized purposes of the project in two places, both of which include "water supply for Atlanta":

> "In addition to flood control discussed above, the **primary purposes** of the Buford project are production of hydroelectric power, increased flow for navigation in the Apalachicola river and an **increased water supply for Atlanta**."

Definite Project Report at 34 (1949).

> "As previously stated, the principal purposes of the Buford project are: to provide flood control; to generate hydroelectric power; to increase the flow for open-river navigation; and to assure a sufficient supply of water for Atlanta."

Definite Project Report at 41 (1949).

2. Questions about the litigation

2.1. Has the authority issue been presented to any court?

The authority issue is presented in several pending cases, but it has never been decided by any court. Specifically, the issue is pending in *Georgia v. United States Army Corps of Engineers*, 3:07-cv-251 (M.D. Fla.) and *Alabama v. United States Army Corps of Engineers*, 3:07-cv-249 (M.D. Fla.). It is also a peripheral issue in *Southeastern Federal Power Customers v. Caldera*, Appeal No. 06-5080, which is currently pending before the United States Court of Appeals for the District of Columbia.

2.2. Has any court issued a decision regarding the authorized purposes of Buford Dam?

No.

The issue is directly presented in *Georgia I* and was partially briefed to the court in 2001. Briefing was interrupted, however, when the court decided to stay proceedings to avoid any conflict with proceedings in the *Alabama* case.

After Georgia raised the authority issue in *Georgia I*, the Alabama and Florida amended their pleadings in the *Alabama* case to allege that water supply is *not* an authorized purpose of Lake Lanier. There have been no substantive proceedings no these claims in the *Alabama* case, however.

2.3. Does the decision of the United States Court of Appeals for the D.C. Circuit (Southeastern Federal Power Customers v. Geren) invalidating the Settlement Agreement for Lake Lanier mean that water supply is not an authorized purpose of Lake Lanier?

No. The issue was not directly presented in the *SeFPC* appeal and the court specifically declined to address it.

The *SeFPC* appeal related to a settlement agreement between the Water Supply Providers, the Southeastern Federal Power Customers ("SeFPC"), the United States and Georgia. The settlement agreement provided for the execution of interim contracts between the Corps and the Water Supply Providers to secure water supply

storage space in Lake Lanier. Alabama and Florida challenged the Corps' authority to enter into this agreement and the D.C. Circuit sustained this challenge.

The court's decision, however, is strictly limited to the authorization provided by the Water Supply Act of 1958 (the "WSA"). There are two potential sources of authority for the Corps' water supply operations—the WSA is one, and the original authorization for the project under the Rivers and Harbors Act of 1946 is the other. The settling parties disagree about the original authorization. Therefore, for settling purposes only, the settling parties agreed to rely exclusively on the WSA in constructing and defending the settlement agreement.

The WSA provides general authority for the Corps to include water supply storage in all of its projects subject to certain constraints. The authority provided by the WSA is limited to projects that do not severely impact other project purposes or require a "major operational change." These constraints do not apply to projects that were originally authorized for water supply.

The *SeFPC* court determined that the settlement agreement could not be authorized under the WSA because the agreement would require a "major operational change." Although we disagree with this holding, it does not have any bearing on the authority provided by the original authorizing legislation. Therefore this issue is still pending and will decided in subsequent litigation.

2.4. I've seen a quote from an Eleventh Circuit opinion that appears to address this issue. Doesn't that mean the issue has been decided by the Eleventh Circuit?

The quote is from *Alabama v. United States Army Corps of Engineers,* 424 F.3d 1117, 1122 (11th Cir. 2005), in which the United States Court of Appeals for the Eleventh Circuit vacated a preliminary injunction issued by the Northern District of Alabama. Before getting to the substance of a scathing opinion holding that the Northern District of Alabama had abused its discretion in multiple instances in its handling of the litigation, the Eleventh Circuit stated as "background" that "Lake Lanier was created for the explicitly authorized purposes of flood control, navigation, and electric power generation." The court also stated that, "although not explicitly authorized by Congress, the Corps has historically maintained that water supply use is an "incidental benefit" flowing form the creation of the reservoir." *Id.*

These incorrect statements are included in the "Background" section of the opinion because they were not relevant to the issues addressed in the substance of the Eleventh Circuit opinion. None of the parties to the case discussed the issue in their briefs to the court. In legal terms this language is "*dicta*" with no legal effect.

The United States and the Southeastern Federal Power Customers—who strongly disagree with Georgia and the Water Supply Providers about the authorized purposes of Buford Dam—are both on record that the Eleventh Circuit's statement is *dicta* that should be disregarded.

We have no idea why the 11th Circuit included this language in the opinion or where it got its information. The court did not cite any authority to support its statement. It is clear that court did not actually read the authorizing legislation for Lake Lanier, because the authorizing legislation does not "explicitly" authorize any purpose (contrary to the court's statement). What appears to have happened, instead, is that court may have searched the internet for newspaper articles or other similar sources for background information to fill out its opinion. Not realizing that the issue is a source of controversy, the Court appears to have accepted as true statements that parties with an interest in the litigation have made about the authorized purposes of Buford Dam.

EXHIBIT C

Streamflow Depletions in the Flint River Basin Caused by Irrigation Pumping from the Floridan Aquifer in Drought Years

	Depletions Caused by Groundwater Pumping*			Depletions Caused by Surface Water Withdrawals	Total**	
	Spring Creek Gage (cfs)[1]	Bainbridge Gage (cfs)[2]	Total GW (cfs)[3]	Total SW (cfs)[4]	cfs	mgd[5]
January	-	-	-	-	-	-
February	-	-	-	-	-	-
March	3.8	42	46	48	94	60
April	8.8	79	88	92	179	116
May	32.9	252	285	297	582	375
June	40.9	320	361	376	737	476
Jul	33.7	338	372	388	759	490
Aug	29.5	352	382	398	779	503
Sept	21.9	341	363	378	741	478
Oct	10.5	220	231	240	471	304
Nov	8.3	171	179	187	366	236
Dec	4.7	130	135	140	275	178
Average			**203 cfs**	**212 cfs**	**415 cfs**	**268 mgd**

Source: Flint River Basin Regional Development and Conservation Plan (Mar. 20, 2006)

*Actual groundwater withdrawals for irrigation are much higher.

**Depletions for municipal and industrial use within the Flint River Basin are not included.

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[1] *See* Flint River Basin Regional Development and Conservation Plan ("FRB Plan") at 111, Table 6.2(c) ("Backlog" column). Spring Creek is a former tributary of the Flint River that now flows directly into Lake Seminole.

[2] *See* FRB Plan at 112, Table 6.2(e) ("Backlog" column).

[3] Numbers in this column exclude minor streamflow reductions from irrigation pumping within the Ichawaynochaway Creek drainage area. See FRB Plan 110, Table 6.2(a).

[4] The FRB Plan does not provide monthly data for surface water withdrawals. It does state, however, that "approximately 250 mgd [387.5 cfs] are used basin wide by agricultural surface water withdrawals in July (the peak month) of a typical irrigation season during a drought year." FRB Plan at 15. The estimates of monthly use and yearly average provided in this column were derived by assuming that surface water withdrawals vary seasonally in the same manner as groundwater withdrawals, which we believe is a safe assumption.

[5] The conversion between mgd (millions of gallons per day) and cfs (cubic feet per second) is as follows: 1 mgd = 1.55 cfs; 1 cfs = .646 mgd.

EXHIBIT D

Alternative ACF Reservoir Operations

Overview of the Maximum Sustainable Release Rule

March 2008

Daniel P. Sheer, Ph.D, P.E
HydroLogics, Inc.

Lewis B. Jones
King & Spalding LLP

The Interim Operations Plan (IOP) Operations for the ACF

- The IOP was hastily adopted in 2006 in response to litigation by Florida.
- It is demonstrably flawed and not sustainable.
  - It prevents the reservoirs from refilling and requires the Corps to use reservoir storage to artificially maintain high flows in the Apalachicola River.
  - The IOP nearly emptied the ACF reservoirs in 2007.
- The IOP was suspended by the EDO in November 2007. However, the EDO is scheduled to terminate on June 1, 2008 and will be lifted if Composite Storage reaches Zone 2.
- We simply cannot return to the IOP. Therefore, a new interim plan must be developed until the Water Control Manuals can be updated.

There Are Alternative Management Options Available That Can Accommodate the Demands of All Users

- We need a new operating plan based on facts and sound science.
  - The facts will show that metro area water use is reasonable … just 1% of the annual water budget in the ACF River Basin in an average year and just 2% in an extreme drought year.
  - The system can accommodate these demands if the reservoirs are properly operated.
- We have proposed on plan of operations—the "Maximum Sustainable Release Rule" or "MSRR"—that would perform better than the IOP for almost all operational objectives that have been identified.
  - While the MSRR can be improved based on input from other stakeholders, it demonstrates that sound alternatives to the IOP are available.

Maximum Sustainable Release Rule: Three Main Principles

1. Make release decisions based upon a "Balanced Budget Rule"
   - Consider available reservoir storage and forecasted inflow
   - Provide a 90% probability of refill by June 1
2. Maintain "Reserve Storages" as a failsafe
3. Adjust operations to meet specific operational objectives

1. Balanced Budget Rule

- The Annual Water Budget is the total amount of water available for all purposes in a given year.
- Reservoir storage is available to *manage* the annual budget, but reservoirs do not *increase* the budget.
  - Releasing water from storage is like spending money from a savings account in anticipation of future income to solve a cash-flow problem.
- An operating plan is sustainable only if annual releases (expenses) are roughly equivalent to annual inflow (income).
- A "Balanced Budget Rule" for the reservoirs will ensure that releases from storage do not exceed expected income.
  - The major flaw in the IOP is that it places high demands on reservoir storage to support minimum flows in the summer and fall without allowing the reservoirs to refill in the winter and spring. Therefore annual demands under the IOP substantially exceed annual income.
- The Balanced Budget Rule provides necessary security for water supply (by ensuring that reservoirs will not be emptied) but also produces a more natural flow regime.

1. Balanced Budget Rule

- To implement the balanced budget rule, follow these steps each week:
  - Determine how much water is in storage in the reservoirs
  - Prepare an inflow forecast to estimate the volume of inflow expected before June 1
  - Based on the status of system storage and the inflow forecast, calculate the amount of water that must be kept in storage to provide a high probability that all reservoirs will refill by June 1.
    - Water in excess of this amount is the "available storage"
  - Budget for all available storage to be released in accordance with a schedule adjusted to maximize benefits.

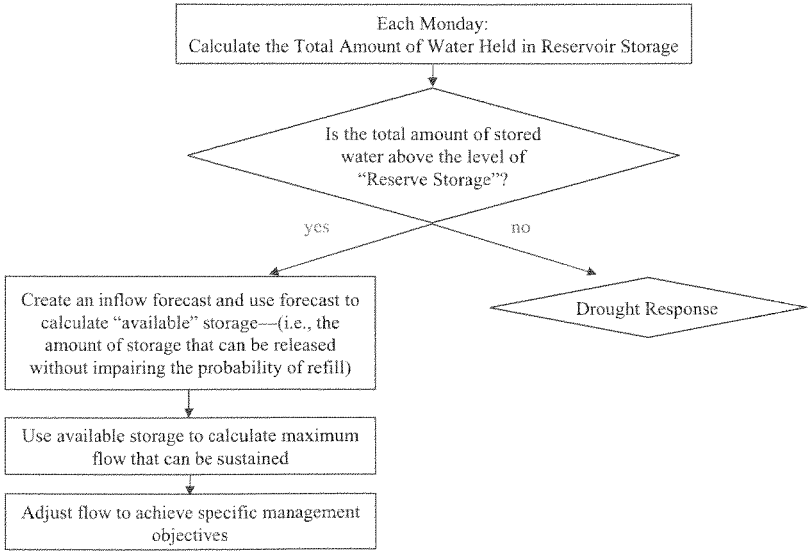
2. Reserve Storages

- "Reserve Storages" provide a failsafe in case the forecasts are wrong
  - The Reserve Storages are storages that must be available *at the beginning* of a drought to ensure that essential needs can be met throughout the drought.
  - Initiate drought contingency measures (minimum flows) when available storage falls below the level of the Reserve Storages.
  - Rarely be triggered in practice
- To calculate Reserve Storages, follow these steps:
  - Use simulation models to calculate the amount of storage required meet essential needs (water supply as well as minimum environmental flows) throughout a record drought
  - Add an appropriate margin of safety

3. Adjustments To Meet Specific Operational Objectives

- Adjust operations to meet specific, measurable operational objectives
- Our proposal includes two adjustments in particular:
  1. Releases from reservoir storage should never be used to augment flows at the Chattahoochee gage above 10,000 cfs
     - No apparent value to mussels
     - Little increase in sturgeon spawning habitat
     - Stored water can be budgeted for other purposes, including the support of low summer flows for mussels
  2. Maximum ramping rates (40 cfs/day)
- Our proposed adjustments are just a starting point—operational objectives should be balanced among all stakeholders

Maximum Sustainable Release Rule: Decision Tree



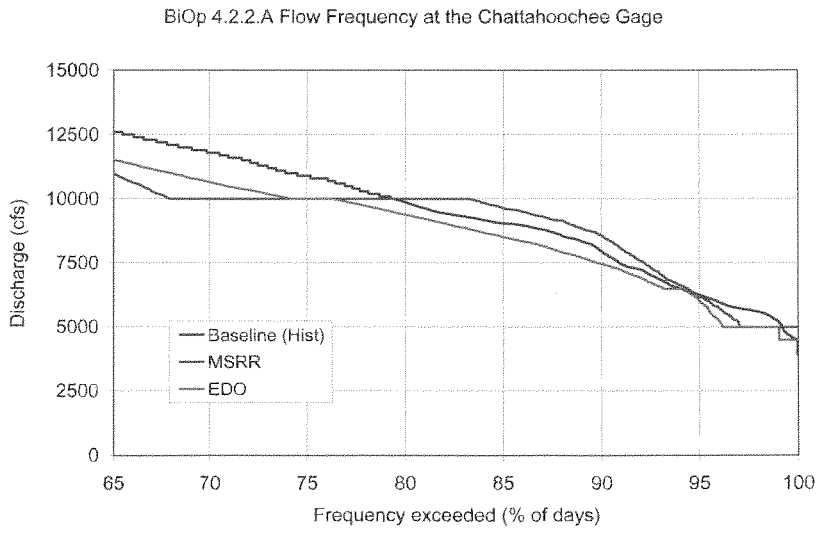
Summary of Results

- Our alternative…
  - Outperforms the IOP/EDO on many important measures, including the key environmental measures, and perform at least as well on all others.
  - Can be improved with input from other stakeholders, but already clearly better than the IOP/EDO.
- Evaluate results using performance measures for the following objectives:
  - Mussel flows (low flows)
  - Sturgeon Habitat
  - Floodplain connectivity
  - Lake levels and system storage
  - Recreation impact
  - Power generation
- The remaining slides compare the MSRR to the IOP on these performance measures.

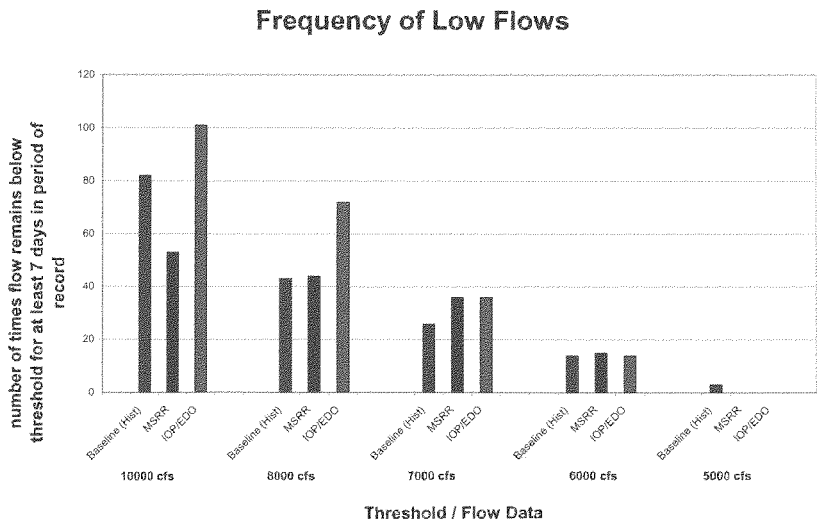
Mussel Flows: The MSRR Outperforms the IOP/EDO

- According to the US Fish & Wildlife Service, endangered and threatened mussels may be adversely affected by Apalachicola River flows less than 10,000 cfs.
- The MSRR has significantly lower frequency of flows less than 10,000 cfs when compared to the IOP/EDO.
- The MSRR is clearly superior based upon this performance measure and better protects the threatened and endangered mussels.

Higher Flows in Critical Range for Mussels



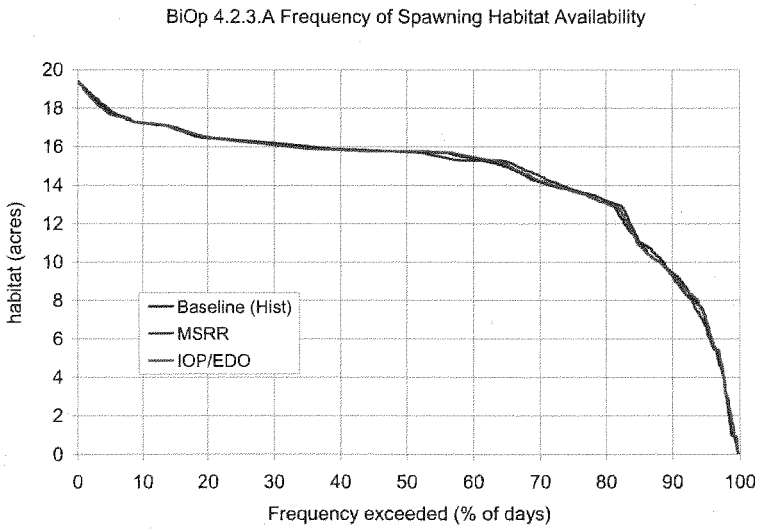
Fewer Occurrences of Sustained Low Flows



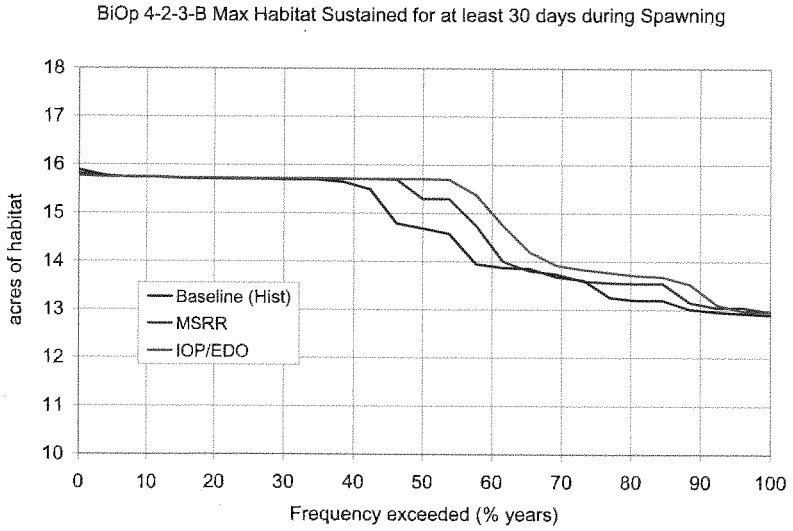
Sturgeon Habitat: The Amount of Available Spawning Habitat is Functionally Equivalent

- The US Fish and Wildlife Service has examined the relationship between river flow and available sturgeon spawning habitat.
- The MSRR performs as well or better than the IOP/EDO in protecting these critical sturgeon spawning areas.

There is no Functional Difference in Available Sturgeon Spawning Habitat

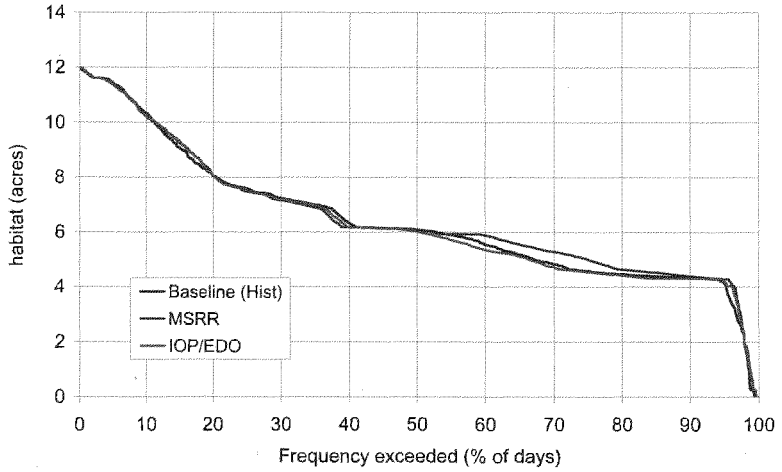


Little Reduction in Total Sustained Sturgeon Spawning Habitat

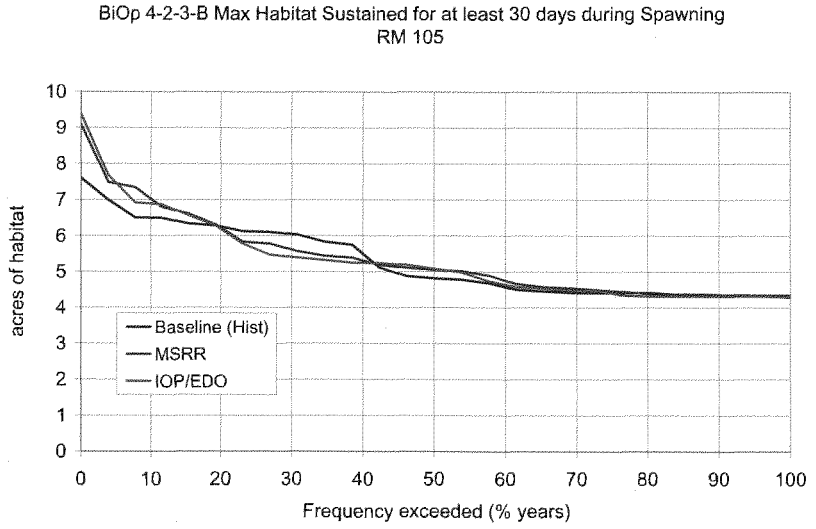


The MSRR Performs As Well or Better Than the EDO/IOP for the Most Important Sturgeon Spawning Habitat

BiOp 4.2.3.A Frequency of Spawning Habitat Availability RM 105



The MSRR Performs As Well or Better Than the EDO/IOP for the Most Important Sturgeon Spawning Habitat



This is Due to the Relationship Between Spawning Habitat and Flow

Biological Opinion for Woodruff Dam Interim Operations Plan September 5, 2006

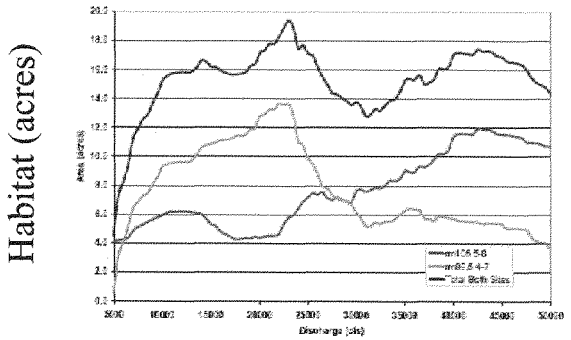


Figure 3.6.1.4.C. Area (acres) of hard substrate inundated to depths of 8.5 to 17.8 ft deep at the two known Gulf sturgeon spawning sites on the Apalachicola River (RM 105 and RM 99) at flows of 5,000 to 50,000 cfs, based on the cross sections located closest to egg collections during 2005 and 2006.

Given this relationship between habitat and flow...

It is important to assess operations based on *performance measures* rather than volumes of water

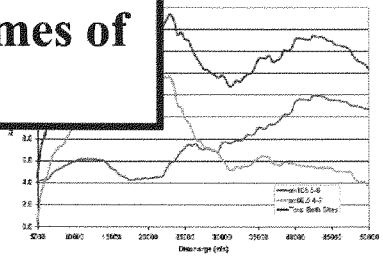
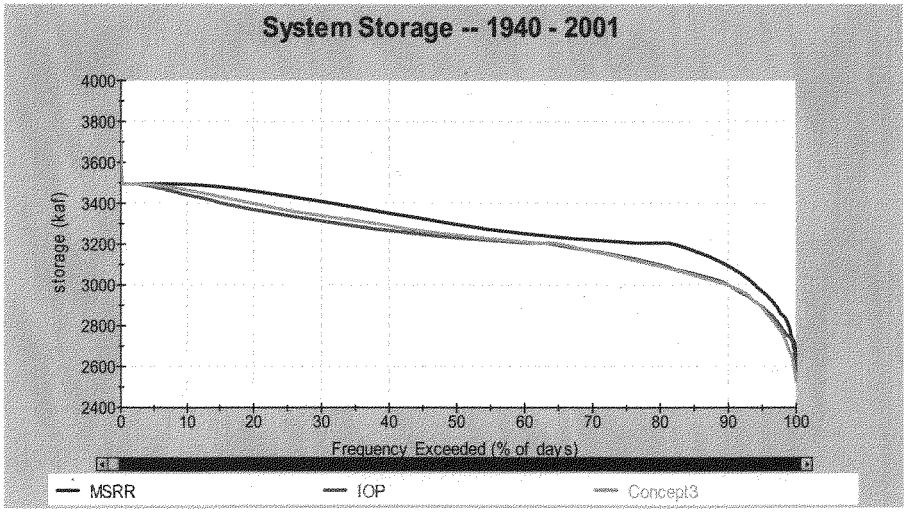


Figure 3.6.1.4.C. Area (acres) of hard substrate inundated to depths of 8.5 to 17.8 ft deep at the two known Gulf sturgeon spawning sites on the Apalachicola River (RM 105 and RM 99) at flows of 5,000 to 50,000 cfs, based on the cross sections located closest to egg collections during 2005 and 2006.

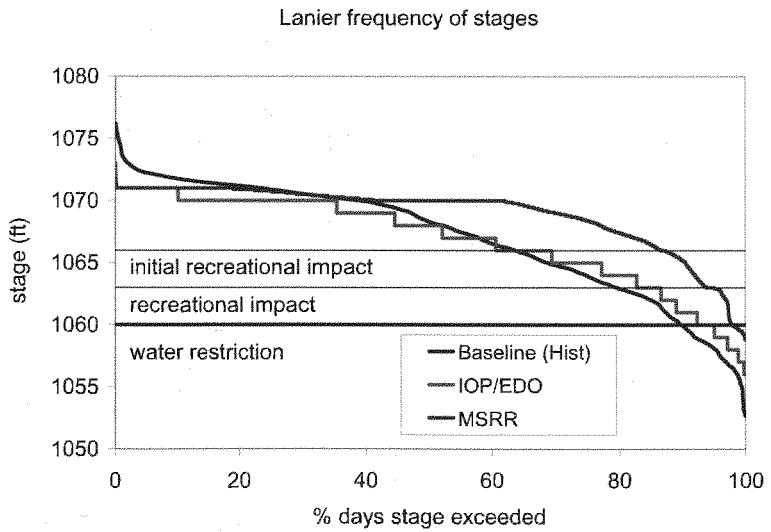
Lake Levels and System Storage: The MSRR Maximizes Both River Flows and Reservoir Storage

- The MSRR produces consistently higher reservoir levels under nearly all operating conditions while providing sufficient flows to meet other identified purposes.
- Higher reservoir levels increase management flexibility and help to ensure system integrity under extreme drought conditions.

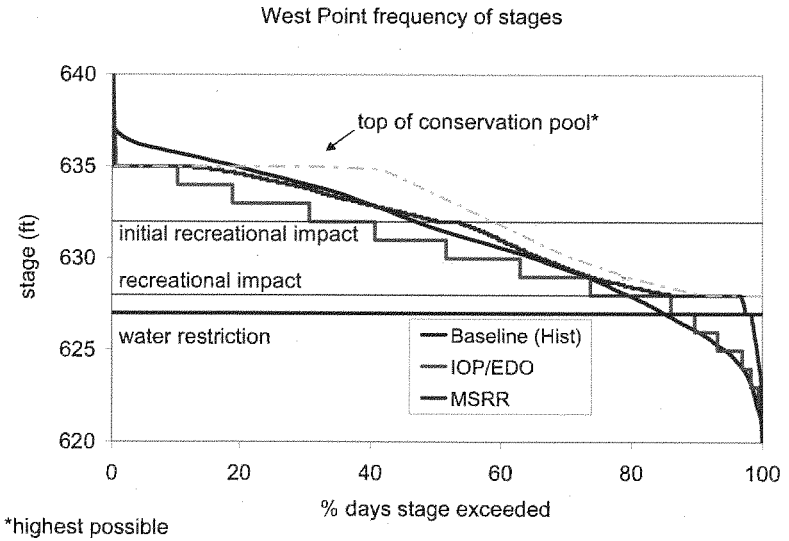
More water in system storage



More water in Lanier

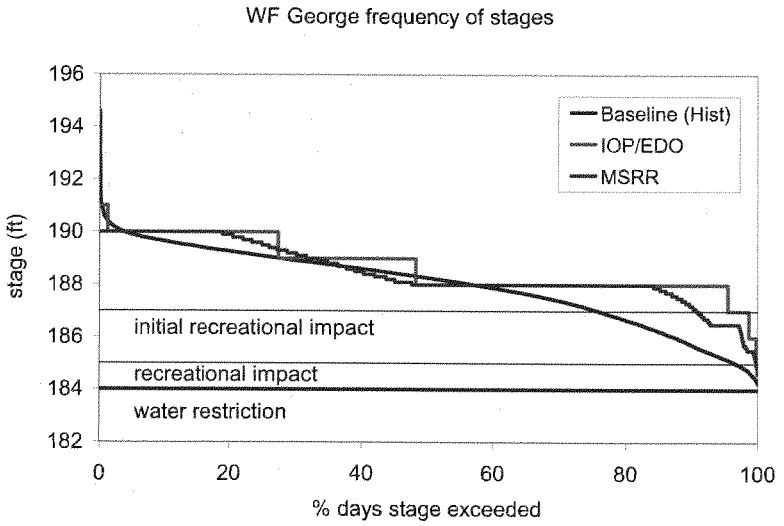


More water in West Point



*highest possible stages under current flood control rules

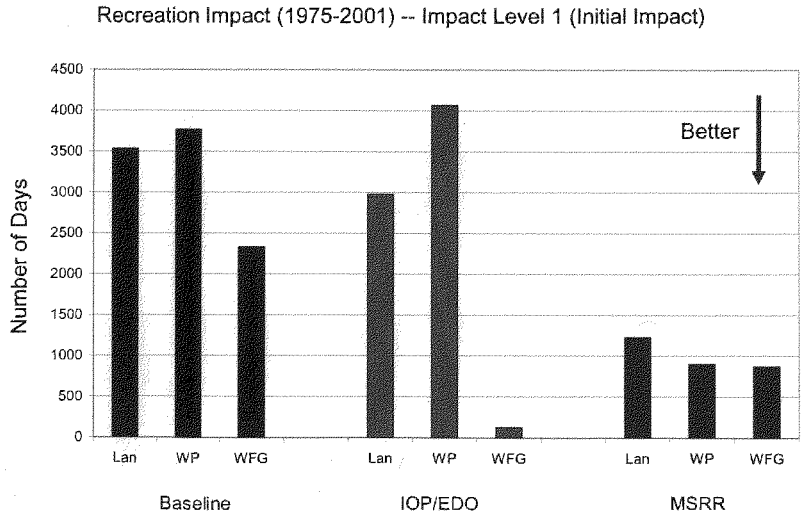
More water in WF George than historical



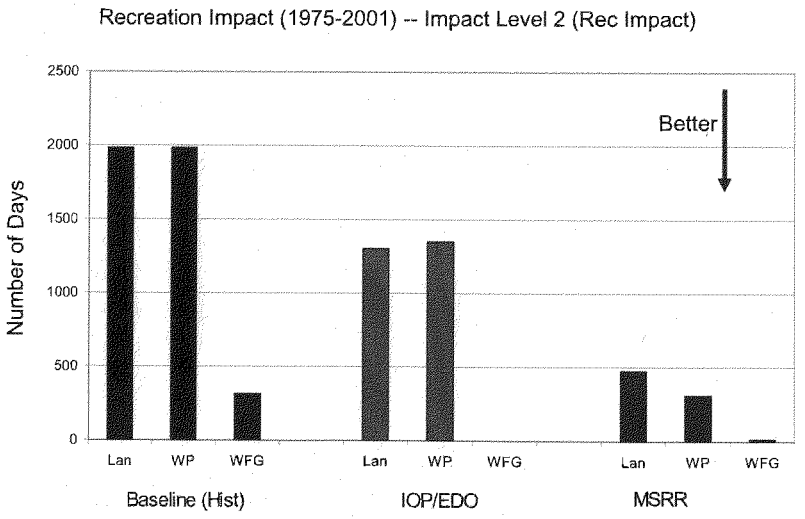
Recreation

- Recreation on the federal reservoirs in the ACF Basin is "big business."
- The economic impact of Lake Lanier alone has been estimated at more than $5 billion.
- The MSRR enhances these economic benefits by maximizing reservoir levels and thus increasing recreational opportunities while providing sufficient flows to meet other identified purposes.

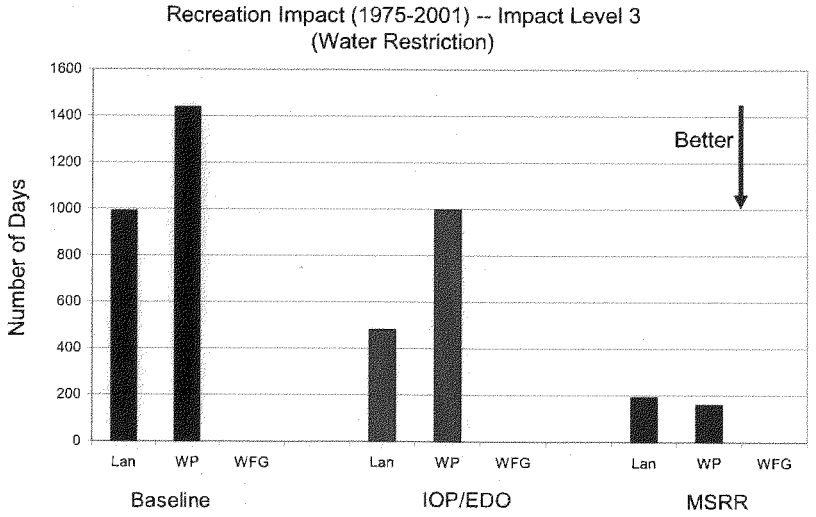
Fewer Days of Initial Recreation Impact



Fewer Days of Recreation Impact



Fewer Days of Severe Rec. Impact



COMPLETE TESTIMONY OF

MARK W. CRISP, PE
MANAGING CONSULTANT
C. H. GUERNSEY & COMPANY

SPEAKING ON BEHALF OF
THE CITY OF LAGRANGE
AND
THE WEST POINT LAKE COALITION

BEFORE THE HOUSE COMMITTEE ON SMALL BUSINESS
ON THE CONDITION OF WEST POINT LAKE AND THE IMPACTS OF THE
INTERIM OPERATING PLAN AND THE DROUGHT

MARCH 25, 2008

1100 Circle 75 Parkway
Suite 950
Atlanta, Georgia 30339
770.857.1250

Good morning Members of the House Committee on Small Business. Welcome to West Georgia, the City of LaGrange and the West Point Lake Community. My name is Mark W. Crisp, PE. I am an engineering consultant engaged by City of LaGrange, Georgia and the West Point Lake Coalition to examine a number of issues and opportunities associated with West Point Lake. My primary areas of practice are water resources, basinwide hydrologic system operations, and hydropower operations. For many years the Apalachicola-Chattahoochee-Flint River Basin ("ACF") (See Exhibit 1) has operated with minimal conflicts and relatively good availability of water through natural rainfall. However, during the last 20-25 years, our climatology has seen a significant change. For the greater part of the 20th century our climatology experienced robust and extensive wet seasons during the months of December through April with additional contributions of rainfall during Summer thunderstorms that occurred almost daily across much of the Southeast, including Georgia. However, starting in the early 1980's and continuing today, our climatology has shifted to a more arid condition. Winter and Spring storms are less frequent and our Summer thunderstorm patter has moderated, as well. The cause of this climate moderation is a topic for another day. However, the effects of climate moderation and the Corps of Engineers operational response is the topic for discussion today, especially as it relates to how the Corps has operated West Point Lake during the last two (2) years in particular. A critical and significant factor in the Corps operation of West Point Lake has been the extreme effect caused by the US Fish & Wildlife's Biological Opinion and the Corps Interim Operation Plan initiated in the ACF Basin in the Spring of 2006.

During the time period from 1980 through the present, the ACF has experienced three (3) major droughts, the drought of 1981, the drought of 1986-1988, and the current drought that actually started in 1998 and continues today. Many climatologists and meteorologists claim the current drought is a separate cycle from the one initiated in 1998. However, only a cursory level examination of rainfall data for this region for the period 1996-2007 clearly indicates that we never escaped the vise of the drought started in 1998. As a matter of fact, we continue to suffer from this drought to the tune of some 56.1 inches of rainfall below average that we have not received during the 1998 to 2008 time frame (See Exhibit 2). To exacerbate matters, during three years in the early 2000's that we received above average rainfall it was only due to remnant hurricanes that moved up from the Gulf coast. However, as beneficial as this rainfall was, it was short-lived and only benefited the reservoirs by providing a needed immediate boost to the lake elevations. The intense rainfall over a very short duration (1-2 days) mostly provided for immediate runoff into the major rivers and provided little to no benefit to restoring "order" to the hydrologic cycle (See Exhibit 2). If we discount this tropical rainfall, we are actually some 100 inches below average for the 12 years since 1996. That is over 8 feet below average. At the same time as the onset of our current, more arid weather cycle, the Southeast and particularly the Metro Atlanta Region was experiencing unprecedented growth in population. The planning agencies of the region looked primarily to the least expensive and most readily accessible source of water, storage of the Federal reservoir system, as a "savior" for water supply resources. The Corps of Engineers eagerly obliged the water supply utilities without formally undergoing the necessary processes to establish contracts. The conflicts started to arise between the

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Congressionally authorized project purposes and those uses that were seen as incidental benefits. These conflicts generated the now infamous "Water Wars" that have been going on for over two decades, through at least two administrations in each of the affected statehouses and continues today with little hope "at the end of the tunnel."

As early as 2002, the US Fish and Wildlife and the Corps of Engineers initiated informal discussions concerning several species of freshwater mussels and the Gulf sturgeon. Fish & Wildlife was in the process of declaring some of the mussels and the Gulf Sturgeon as Endangered per the Endangered Species Act ("ESA"). Declaring the species "endangered" provided the Fish & Wildlife with almost an unlimited arsenal of methods to effect change in the operations of Federal water projects that had been in operation with established operating plans that date back as far as 50 years. The entrance of the US Fish & Wildlife and the ESA brought a whole new dynamic to the escalating Water Wars. With little to no well defined objectives or performance matrices, the ESA has allowed Fish & Wildlife to dictate to the Corps how much water must be released downstream of the Jim Woodruff Dam during any seasonal period with little regard for upstream uses.

At this point, we now have major droughts, escalating water demands in the upper regions of the ACF, competing use issues for reservoir storage other than Congressional authorized uses, three States competing for a "share of the pie" and Fish & Wildlife playing the "nuclear option" in the lower portion of the basin. Unfortunately, West Point Lake sits squarely in the middle of the basin. Lake Lanier (Buford Project) sits at the

upper boundary of the basin and makes up a significant portion of the Metro Atlanta's water supply storage. Recreation, although not an authorized purpose of Lanier is also a significant economic incidental benefit of Lanier. However, unlike Lanier, West Point Lake does have recreation, sport fishing, and wildlife development as a specified and well defined Congressional Authorization. Political pressure on the Corps to maintain pool elevations at Lanier has been intense over the years. There is also significant concern that Lanier also holds over 60 % of the storage in the ACF basin yet it sits so far towards the headwaters of the Chattahoochee River. As such, it controls huge volumes of water (1,087,600 ac-ft in the conservation storage). Due to the political pressure to maintain reservoir elevations and support water supply, Lake Lanier is operated much as the "backstop" to the system. Only if everything else fails will Lanier be looked at as a resource to meet downstream needs, even with conservation storage that exceeds West Point Lake by 780,000 acre-ft, nearly 3.5 times that of West Point Lake (See Exhibits 3-1 & 3-2). With West Point Lake in its location, it is an easy target for the Corps to use, as recently referred to by General Schroedel, SAD Commander, as the "workhorse" of the system. However, in this case, the workhorse is being turned into a "mistreated sway-backed nag" due to over use, rapid and repeated fluctuations in elevations, and excessive drawdowns to support functions Congress never anticipated nor studies ever supported. The reservoir continues to suffer due to outdated operational plans and rule curves that penalize the reservoir when there is good rainfall. An example of the unauthorized purposes not conveyed to the Corps for use of storage at West Point Lake or any other of the Federal storage projects includes "providing cooling water associated with thermoelectric power as well as the accommodation of other municipal and industrial

needs such as non-Federal hydropower generation…" as stated to Congressman Westmoreland by General Scroedel in his letter dated November 27, 2007 (See Exhibit 5).

The "nuclear option" played by the US Fish & Wildlife that initiated the development of the Biologic Opinion and the Interim Operating Plan ("IOP") created havoc with regards to the operation of West Point Lake during 2006 and 2007. In as much as the plan called for the release of huge volumes of water into the Apalachicola River from the Jim Woodruff project, the Environmental Assessment performed by the Corps did not effectively investigate the impacts it would have on upstream storage projects, particularly West Point Lake. As a matter of fact, personnel from the Corps actually stated during public comment sessions that they did not look at upstream reservoirs because "the EA and IOP was for only Jim Woodruff project and downstream." This myopic viewpoint and total lack of understanding of how the projects are linked hydrologically is troubling at best. The Corps has been operating this system for over 50 years, and certainly should understand by now that ***any*** modification to operations that requires the release of as much as 37,000 cfs into the Apalachicola River cannot be sustained by Woodruff itself. The Corps and Fish & Wildlife's zeal to accomplish "some" change during a period of extreme drought and intense negotiations between states typifies current philosophy employed in the Federal negotiations and failed compact discussions; "let's find an answer and then we will develop the science to justify the answer." Unfortunately for the Corps and Fish & Wildlife, this drought turned into the drought of record and the extreme demands placed on West Point Lake drained it to

near its lowest elevation on record. So low that the Corps made the decision that it could not afford to draw on West Point any further. Therefore they had to turn to Lake Lanier in order to meet the flow requirements of the IOP in the Apalachicola River. This action subsequently drained Lake Lanier to an all time record low level that appears to be unrecoverable this Spring. At Lanier's present elevation (1055.9, March 20, 2000), if we do not receive extraordinary rainfall during April and May, Lanier will enter the Summer of 2008 at an unprecedented low elevation. All for the sturgeon and mussels that, to date, no one can tell you, quantitatively, that the massive releases of 2006 and 2007 has done any good to restore habitat or populations.

The Corps of Engineers has claimed the IOP only accounted for 0.5 feet of the drawdown for West Point Lake during 2007 (Letter from Gen Schroedel to Congressman Westmoreland, dated November 15, 2007, subsequently confirmed in Westmoreland to Schroedel, dated, December 5, 2007, copy attached). However, if you compare the operational results, i.e., reservoir elevations, etc., of this drought (2007) with that of the drought period in 2000, it is easy to see that the Corps held reservoir elevations much higher during the previous droughts while meeting the downstream demands. The major change between those droughts and this one was approximately 4 inches less rainfall spread over the year and the implementation of the IOP. Therefore, the IOP **did** cause significantly worse conditions than the 0.5 foot drawdown at West Point as alleged by the Corps (See Exhibits 6 & 7).

If the Corps had taken a more aggressive and conservative approach to water management, knowing we were in the midst of a multi-year drought of significance, West Point Lake could have been sustained at levels above 630.0 well into the Summer of 2007, Lake Lanier could have been held higher and the releases into the Apalachicola River downstream of Jim Woodruff Dam could have been sustained at levels greater than those that were naturally produced but much less than the grossly exaggerated flows required by the IOP. As pointed out earlier, the drought of the Summer of 2007 is a continuation of a multi-year drought stretching back to 1998 as its origin. The rainfall we have received over the last 12 years cumulatively is 56.1 inches below the cumulative average (See Exhibit 2). If we discount the effects of tropical precipitation during this period we are 100 inches below average. For the last 12 years, only four of those years have produced rainfall greater than the long term average. During these four (4) years of above average rainfall, we did not receive sufficient rainfall to overcome the long term effects of the remaining eight (8) years. Had the Corps been "manning the rudder" tracking rainfall, tracking climatic conditions and reservoirs response, the devastation caused by an ill conceived plan such as the IOP would not have been exacerbated by the drought.

Entering the Summer of 2006 (June 1, 2006), West Point Lake's elevation was at 631.3, 4.7 feet below the Summer Full Pool Elevation. This also equates to over 1 foot below the "recreation impact level" where opportunities for recreation are negatively impacted. I must remind you that recreation at West Point Lake was specifically and deliberately authorized by Congress and intended to be a significant part of the overall operational

plan not just an ancillary benefit to be available only when the Corps found it convenient. As the Summer progressed, the lake continued to operate within a 2 foot band width through most of 2006 and into the Spring of 2007 (See Exhibit 8). Beginning in May of 2007, West Point started a precipitous fall that did not end until the lake reached a near historic low in the early Winter of 621.75. This rapid fall has been characterized as exclusively due to the drought, except for 0.5 feet. However, when compared with other droughts periods during the last 25 years, there is no evidence to support this argument. The Water Control Plan for West Point Lake is the same as that utilized during each of the earlier droughts. While there are some day-to-day operational decisions that are made that may not be consistent form one drought to the next, the overall operational guidance is the same. The Corps has said that they maintain consistency with the Water Control Plans, therefore, it must be assumed that, in general, the management of the project was essentially the same for the 2006-2007 period as it was for the 1981 drought, 1986-1988 drought and the 1998-2001 phase of the current drought. The only change to the management plan was the adoption of the onerous characteristics of the IOP. As can be seen in Exhibits 6 & 7, the regional rainfall that occurred was reasonably consistent with the rainfall pattern of the year 2000. However, as can also been seen, the reservoirs at Lanier and West Point were managed very differently between the two droughts. During 2007 Lake Lanier was held higher well into the Winter of 2007 than the corresponding 2000 drought, while West Point Lake was West Point Lake was dropped to its near historic low by November of 2007. West Point Lake was not dropped nearly so steadily or precipitously in 2000. As a matter of fact, in 2000 West Point Lake was maintained nearly flat at elevation 631 while receiving very similar rainfall patterns during this time.

Again, the only, plausible explanation, since the Corps is adamant about operating according to their Water Control Plan which has not changed, is the adoption of the IOP. For the Corps and Fish & Wildlife to continue to refute this is absolutely ludicrous. Compounding the detrimental effects of the IOP on West Point Lake is the fact that the Corps, in its selfish efforts to preserve Lake Lanier for water supply and recreation, curtailed releases compared to their operations in 2000, which would have made up additional inflow into West Point helping to slow the massive drawdown (See Exhibit 7). Exhibit 7 clearly shows that the Lake Lanier elevation during 2007 was maintained higher than in 2000, even with somewhat lower rainfall occurring in 2007. Unfortunately, West Point Lake was placed into an untenable position by the Corps. It was looked at, as described by the Corps, as the "workhorse." However, as the workhorse, West Point was called upon to make massive releases for downstream flows into the Apalachicola River that could not be sustained from storage. Meanwhile, the Corps was making smaller releases at Lake Lanier to preserve its elevation. Operating in this manner constrained West Point by limiting inflows from upstream while simultaneously ordering large releases from storage.

The IOP also required that the releases from Jim Woodruff Dam be reduced according to a "ramp down process." The ramp down was developed to ostensibly minimize stranding of mussel species as the tailwater elevation was reduced as hydropower generation was curtailed. This theory is predicated on the assumption that the mussels had time and did "move" up into shallow water as the generation schedule released more water thereby increasing the tailwater elevation. Unfortunately, the Corps nor US Fish & Wildlife can

predict with any reasonable accuracy the movement of mussels, their response rate to increasing or decreasing water levels, or the ability of mussels to anticipate the need to move into shallow water. Therefore, the whole ramping issue is one of supposition and speculation. Absent sound science, the ramp down rate (See Exhibit 9) causes serious upstream impacts to storage due to the need to augment flows simply to accommodate the ramping process. Again, a process that neither the Corps nor Fish & Wildlife anticipated, understood, or modeled in their original EA and FONSI. Therefore, the upstream impacts were overlooked and, subsequently, the FONSI did not accurately portray the cumulative effects of the IOP. The ramp down process requires a slow progression of flow curtailments that translate to a slow decay of tailwater elevation from 0.25 feet per day to 0.5 feet per day, if flows are within the powerhouse capacity. If the powerhouse is generating at full capacity or about 16,000 cfs when it is determined the need for downstream flows has been met, it will take another 10 to 12 days just to shut down the units and stay within the ramp down criteria. However, the normal operational cycle will require the units to be loaded the next day for a power generation schedule. Therefore, theoretically, as long as the flows downstream for the mussels and sturgeons are requiring turbine capacity flow or greater, the units will run 24/7 due to the ramping criteria. The requirement to run 24/7 in order to meet the ramp down criteria causes the upstream reservoirs, primarily West Point, to release water from storage just to sustain this illogical approach to system management. Not only is this illogical from a system management perspective, it is counter productive to one of the stated goals of the State of Florida, that of protection of the Apalachicola Bay and Estuary. The influx of this continuous abnormal flow of freshwater into the bay creates a "plume of freshwater" that dilutes the

salinity concentration in the plume region, changing the critical habitat of the fishery and nursery of the bay. So, while at one end of the Apalachicola River, the Corps and Fish & Wildlife seek to establish a new habitat criterion for mussels and sturgeon, it simultaneously placed the valued oyster industry of the Apalachicola Bay in jeopardy.

What could have been done to avoid such a damaging situation from occurring? During 2007 even in the midst of the worst drought of record, the Basin Inflow during the Winter and early Spring of 2007 was producing flows in excess of 5,000 cfs, the Flint River, by itself was producing flows in excess of the 5,000 cfs minimum flow requirement (See Exhibit 10). In some cases the basin inflows exceeded 35,000 cfs. However, due to the overly aggressive nature of the flow requirements of the IOP, and the fact the Corps and Fish & Wildlife did not anticipate nor track the evolving drought, nearly all of this available water was "flushed" through the system, as required by the IOP, without regard to refilling the system reservoirs. Had the flow requirement at Woodruff Dam taken into account the need to refill critical storage, nearly 1 Million Ac-Ft. of water over the yearly period of 2007 could have been preserved in the upstream reservoirs. If West Point had received just 20% of this, not only would the reservoir been able to refill before the Summer period, something it has not done since the July of 2005, but it would have had much more water storage in reserve that may have averted the catastrophic events of the Summer of 2007 that impacted the economy and livelihood of so many residential, small business and commercial interests of the LaGrange, West Georgia and East Alabama region. While "carving" out some of the basin inflow for storage replenishment, the Flint River, by its self could have produced flows at Woodruff in excess of 10,000 cfs for

much of the Spring and with a contribution of approximately 3,000 cfs from the Chattahoochee River (Flow attributed to normal instream requirements plus incremental inflows) it is extremely doubtful the mussels or sturgeons would have noticed there was much of a drought. In fact, if the more conservative approach had been taken, there would not have been such a "rush to judgment" about loss of mussels due to stranding. The flows would have been less variable but still sufficient to support sturgeon spawning.

It is clear the IOP has been and continues to be a significantly detrimental tool employed by the Corp and Fish & Wildlife in the name of Endangered Species. Asking the Corps and Fish & Wildlife if the operation under the IOP has been beneficial to the sturgeons and mussels, they cannot state with irrefutable scientific evidence that it has been beneficial nor can they, quantitatively, provide evidence that it will be beneficial in the future. Yet, we have documented severe negative impact to West Point Lake, West Georgia and the East Alabama region that the Corps **never** addressed in their so called "Finding of No Significant Impact."

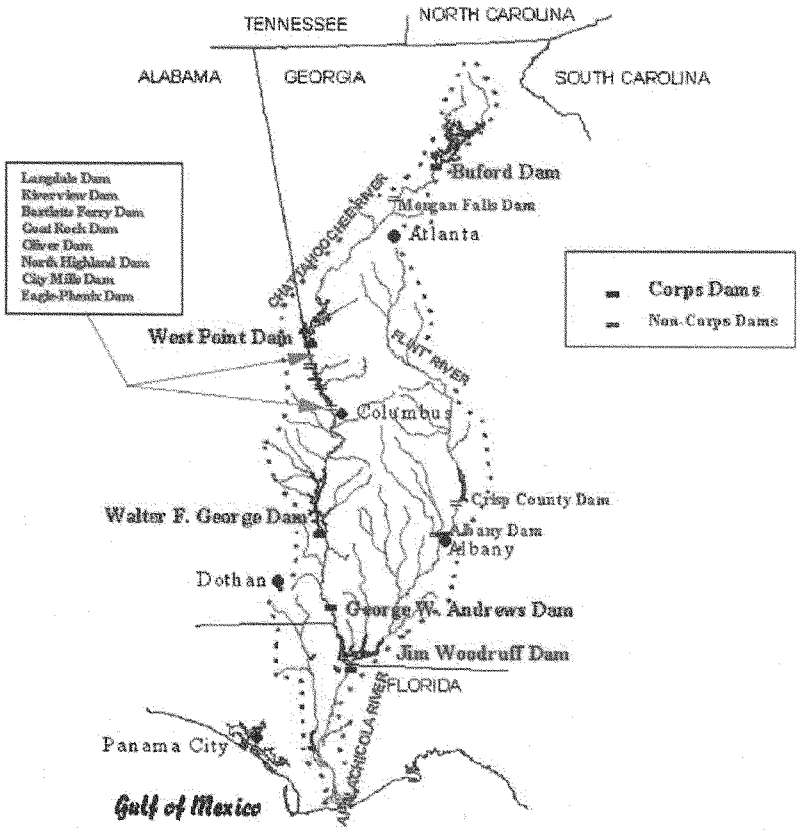
Concurrent with the IOP process in the Apalachicola River, there are rivers and habitats that Fish & Wildlife has identified in surrounding regions of the Gulf coastal area that they characterize as having these same threatened and endangered species (See Habitat Designation at US Fish & Wildlife Web Site for mussels and sturgeon, respectively: http://www.fws.gov/southeast/drought/CH-FinalRule-PublishedFederalRegister.pdf and http://www.fws.gov/alabama/gs/GS_final_rule.html). However, in many of these habitats, there are no storage projects to use to aid in flow augmentations nor are there

projects that create modified hydrologic flow regimes that Fish & Wildlife claim is a prime cause of mussel and sturgeon decline. While Fish & Wildlife and the Corps, under the umbrella of the ESA and the IOP, actively search for some beneficial matrix of operations that will produced the desired results of habitat improvement and species protection in the Apalachicola River, their combined efforts have placed an extraordinary burden on West Point Lake, specifically, and the entire ACF system of storage reservoirs. The Corps performed a perfunctory Environmental Assessment ("EA") and subsequently issued a premature Finding of No Significant Impact ("FONSI"). However, the Corps alternatives did not examine the impacts of severe droughts; did not examine the effects of the ramping rates; did not examine in detail the economic and social damage that the IOP would cause upstream; did not adequately examine the options available to sustain viable communities in other river basins; has not provided sound science to back up supposition, speculation and guesswork about the actual life cycle of the species and their actual response to changing conditions; nor did they examine the cumulative impacts as required by the National Environmental Policy Act ("NEPA") and other standards such as Environmental Justice. Again, the Corps and Fish & Wildlife had an "end game" in mind and there process was formulated in such a manner as to facilitate that end game with total disregard for the upstream reservoirs and particularly West Point Lake.

This concludes my testimony. Again, I appreciate the Committee taking time to convene this Field Hearing on such an important issue to the West Point Lake community, West Georgia and East Alabama. I am available to the Committee for questioning at your convenience.

Exhibits

Exhibit 1



Apalachicola-Chattahoochee-Flint River Basin

1996 to 2007 Atlanta Yearly Precipitation

Exhibit 2

Tropical Precipitation (>1.5")

1997 - Tropical Depresion Danny

1998 - Tropical Storm Earl

2000 - Tropical Depresion Helen

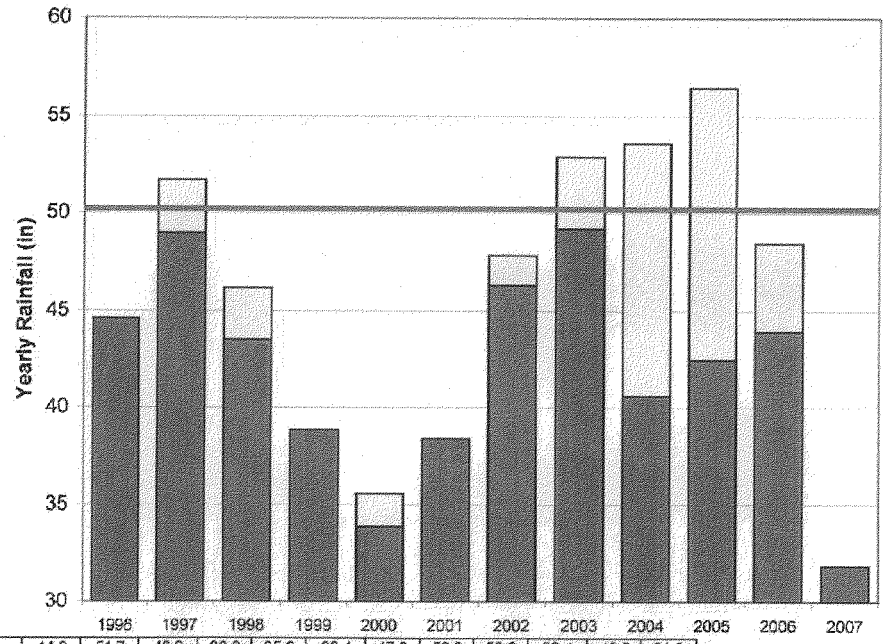
2002 - Tropical Depresion Hanna

2003 - Tropical Storm Bill

2004 - Tropical Depression Frances
- Tropical Storm Ivan
- Tropical Depression Jeanne

2005 - Tropical Depression Cindy
- Tropical Depression Dennis
- Hurricane Katrina

2006 - Tropical Storm Ernesto



Actual Yearly Rainfall	44.6	51.7	46.2	38.9	35.6	38.4	47.8	52.9	53.6	56.4	48.5	31.9
Major Tropical Precip	0	2.69	2.68	0	1.71	0	1.52	3.67	13.0	14.0	4.55	0
Yearly Rainfall - Tropical Precip	44.6	49.0	43.5	38.9	33.9	38.4	46.3	49.2	40.6	42.5	43.9	31.9
Cumulative Deficit	-5.6	-4.1	-6.2	-19.5	-34.1	-45.9	-48.3	-45.6	-42.2	-36.0	-37.7	-56.1
Cumulative Deficit - Tropical Precip	-5.6	-6.8	-13.5	-24.9	-41.2	-53.0	-56.9	-57.9	-67.5	-75.2	-81.5	-99.9

Exhibit 3-1

Table 1-1

Buford Reservoir Area and Capacity
In Acres and Acre-Feet

Pool Elev	Total Area	Total Storage	Pool Elev	Total Area	Total Storage	Pool Elev	Total Area	Total Storage
920	0	0	1043	25701	1039900	1069	37515	1879200
			1044	26159	1083900			
940	1050	5000	1045	26619	1112200	1070	38024	1917000
			1046	27079	1139200	1071@	38542	1955200
960	3100	37000	1047	27533	1166300	1072	39078	1994200
			1048	27983	1194300	1073	39633	2033600
980	6450	121000	1049	28432	1222300	1074	40226	2073600
						1075	40833	2114000
1000	10984	296500	1050	28861	1250900	1076	41436	2153800
			1051	29291	1279900	1077	42086	2196900
1010	13819	420000	1052	29721	1309500	1078	42716	2239300
			1053	30133	1339500	1079	43343	2282300
1020	16912	574000	1054	30587	1369800			
			1055	31023	1400800	1080	43982	2326000
1030	20508	760100	1056	31461	1431800	1081	44618	2370300
1031	20894	781000	1057	31901	1463800	1082	45256	2415300
1032	21281	802000	1058	32343	1495800	1083	45896	2460800
1033	21668	823600	1059	32789	1528200	1084	46538	2507000
1034	22055	845600				1085+	47182	2554000
1035*	22442	867600	[illegible]	[illegible]	[illegible]			
1036	22829	890300	[illegible]	[illegible]	[illegible]	1090	50250	2800000
1037	23217	913300	[illegible]	[illegible]	[illegible]			
1038	23609	936500	[illegible]	[illegible]	[illegible]	1095	53300	3070000
1039	24008	960500	[illegible]	[illegible]	[illegible]			
			[illegible]	[illegible]	[illegible]	1100	56500	3330000
1040	24416	984500	[illegible]	[illegible]	[illegible]			
1041	24833	1009300	[illegible]	[illegible]	[illegible]	1110	63900	3850000
1042	25257	1034300	[illegible]	[illegible]	[illegible]			

*Minimum conservation pool @Top of conservation pool +Top of flood control pool

1-15. Powerhouse. The powerhouse is located in a deep rock cut at the right end of the earth dam just downstream from the intake structure. The powerhouse is a reinforced concrete, [illegible] feet long by 84.5 feet wide, and consists of 3 generating bays and an erection bay. A 6,000 kw unit is located at the right end, and [illegible] kw units in the center and the erection bay is located at the left end of the powerhouse. The three control cables passes through the substructure of the erection bay. The control room, all auxiliary services, public spaces and offices are located downstream from the units and erection space. Rating curves for the various discharge are shown on Charts F and E.

1-16. Switchyard and miscellaneous substations. The switchyard is located as shown on Charts 2 and 3. The step-up transformers are at the left end of the powerhouse. The transformer pool is connected to the powerhouse by a short power cable tunnel. The switchyard, located to the right of the powerhouse on a hill overlooking the dam, is connected to the transformers by overhead lines spanning the tailrace. Control cables are extended to the switchyard through a vertical cable shaft and an underground duct.

Exhibit 3-2

West Point Reservoir
Area and capacity

Elevation - msl (Level surface or flat pool)	Total area (acres)	Total Storage (ac. - ft.)
*620	15,512	298,396
621	16,100	314,202
622	16,702	330,602
623	17,318	347,612
624	17,949	365,245
**625	18,593	383,515
626	19,252	402,437
627	19,926	422,025
628	20,615	442,295
629	21,318	463,260
630	22,037	484,937
631	22,771	507,340
632	23,520	530,485
633	24,286	554,387
634	25,067	579,062
***635	25,864	604,527
636	26,677	630,796
637	27,507	657,887
638	28,353	685,816
639	29,215	714,600
640	30,096	744,254
**** 641	30,993	774,798
642	31,907	806,246
643	32,838	838,618
644	33,788	871,930
645	34,755	906,200

* Minimum power pool
** Top of power pool - December through April
*** Top of power pool - June through October
**** Top of flood control pool

APALACHICOLA - BASIN
RESERVOIR REGULATION MANUAL
WEST POINT RESERVOIR
CHATTAHOOCHEE RIVER, GEORGIA

Exhibit 4

LYNN A. WESTMORELAND
3RD DISTRICT, GEORGIA

WASHINGTON OFFICE:
1213 LONGWORTH HOUSE OFFICE BUILDING
(202) 225-5901

DISTRICT OFFICE:
1601 EAST HIGHWAY 34
SUITE B
NEWNAN, GA 30265
(770) 683-2753

Congress of the United States
House of Representatives
Washington, DC 20515–1008

December 5, 2007

COMMITTEES:

TRANSPORTATION AND INFRASTRUCTURE
MEMBER OF THE SUBCOMMITTEE ON AVIATION
MEMBER OF THE SUBCOMMITTEE ON RAILROADS, PIPELINES, AND HAZARDOUS MATERIALS

OVERSIGHT AND GOVERNMENT REFORM
MEMBER OF THE SUBCOMMITTEE ON NATIONAL SECURITY AND FOREIGN AFFAIRS

SMALL BUSINESS
RANKING MEMBER OF THE SUBCOMMITTEE ON REGULATIONS, HEALTH CARE, AND TRADE
MEMBER OF THE SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT

REPUBLICAN POLICY COMMITTEE

Brigadier General Joseph Schroedel
Commander
U.S. Army Corps of Engineers
South Atlantic Division
60 Forsyth Street, SE
Atlanta, GA 30303-9901

Dear General Schroedel,

I am in receipt of your November 15th, 2007 response to my letter requesting clarification about the U.S. Army Corps of Engineer's position as to the cause of low lake levels at West Point Lake. Thank you very much for your quick response.

In the above mentioned letter addressed to me you stated that, *"Concerning the impacts from the Interim Operations Plan (IOP) on water levels at West Point Lake, modeling has indicated that implementation of the IOP would result in a 0.5 or less reduction in the lake level."*

I am requesting a copy of that modeling study and any supporting documentation that would support such a conclusion.

If you have any questions please feel free to call me, or my Chief of Staff, Chip Lake, at 202-225-5901.

Sincerely,

Lynn A. Westmoreland

Exhibit 5

DEPARTMENT OF THE ARMY
SOUTH ATLANTIC DIVISION, CORPS OF ENGINEERS
ROOM 9M15, 60 FORSYTH ST., S.W.
ATLANTA, GA 30303-8801

REPLY TO
ATTENTION OF

CESAD-DE

November 27, 2007

The Honorable Lynn A. Westmoreland
1213 Longworth House Office Building
Washington, D.C. 20515

Dear Congressman Westmoreland:

Thank you for your November 13, 2007 letter regarding our Water Roundtable meeting on November 8th and your subsequent questions. We are working expeditiously to assist the States in resolving the ultimate issues related to the allocation of water in the ACF Basin.

The Corps of Engineers operates the ACF system and its projects in accordance with Congressional authorization and applicable environmental laws. These Congressional authorities are set forth either as specific project purposes or as more general Congressional authorizations for purposes that are not associated with specially named projects. As a Federal Agency, we may not act beyond the extent authorized by Congress. Therefore, when making decisions as to management of the ACF system, we look to Congressional authorizations to guide those decisions.

We believe we are reasonably managing the ACF system and West Point Lake, consistent with current authorities and limited available supplies of water. The drought is adversely affecting all options. We are doing our best to act consistently with Congressional authorizations and to balance competing interests for that limited available water in these extreme drought conditions. The Corps of Engineers is not managing the ACF Basin for thermoelectric power. Nor are we managing the ACF system for any unauthorized purposes. The Corps does operate these projects on a cooperative basis with States and local governments by making water supply storage space in reservoirs available to governmental entities for municipal and industrial use, pursuant to the authority of the 1958 Water Supply Act, where that is possible and appropriate, and by taking the needs of all stakeholders and users along the system into account. We accomplish this latter objective by monitoring water flows at various points along the system so that sufficient supplies of good quality water are available for various uses, including providing cooling water associated with the thermoelectric power you mentioned as well as the accommodation of other municipal and industrial needs such as non-Federal hydropower generation at other sites and the supplies of drinking water that are drawn directly from the river.

We are aware of the impacts the drought is having on communities. The stakeholder input obtained during our bi-weekly drought teleconferences has been very beneficial in our decision-making.

I trust this sufficiently answers the questions you have asked concerning the management of the water resources of the ACF Basin during these extreme drought conditions. If I can be of further assistance, please do not hesitate to contact me.

Sincerely,

Joseph Schroedel
Brigadier General, US Army
Commanding

Exhibit 6

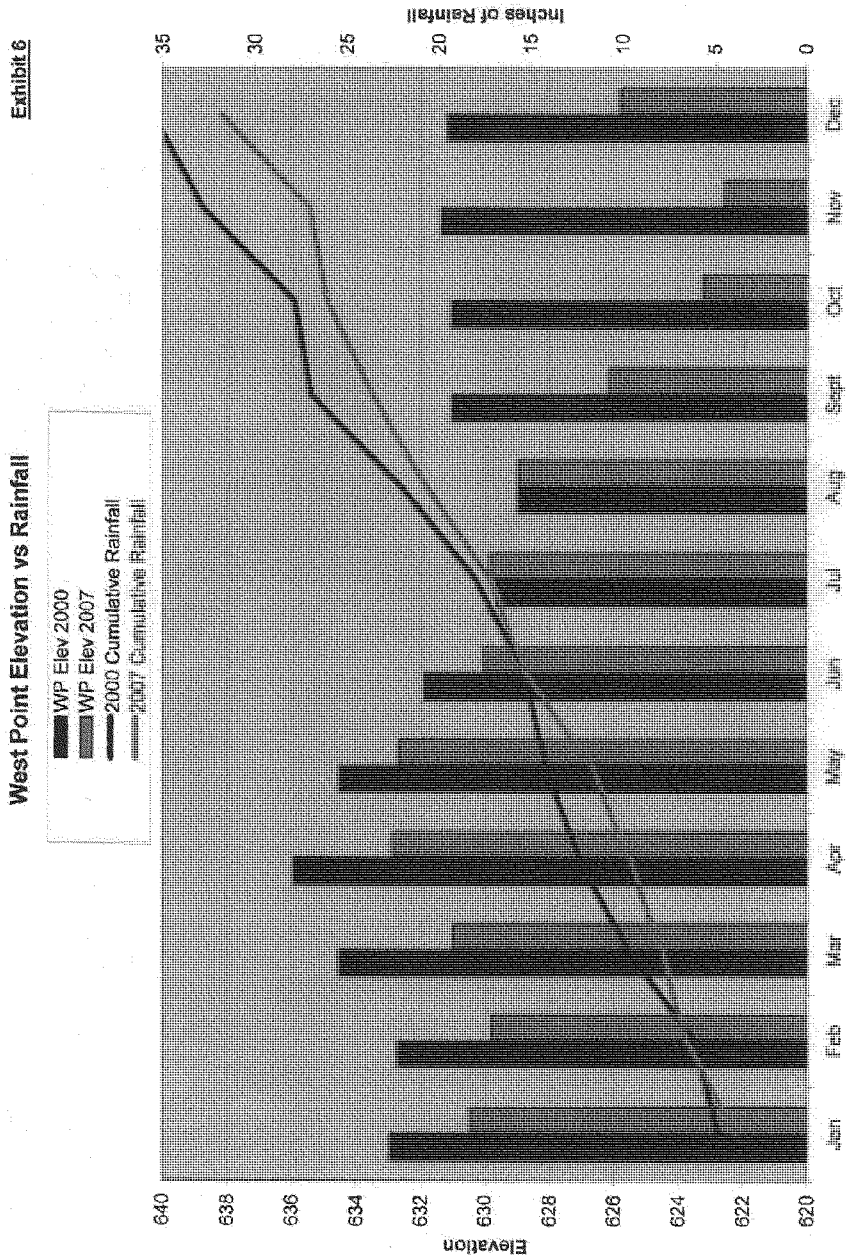

West Point Elevation vs Rainfall
WP Elev 2000
WP Elev 2007
2000 Cumulative Rainfall
2007 Cumulative Rainfall
Elevation
Inches of Rainfall
640
638
636
634
632
630
628
626
624
622
620
35
30
25
20
15
10
5
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sept
Oct
Nov
Dec

Exhibit 7

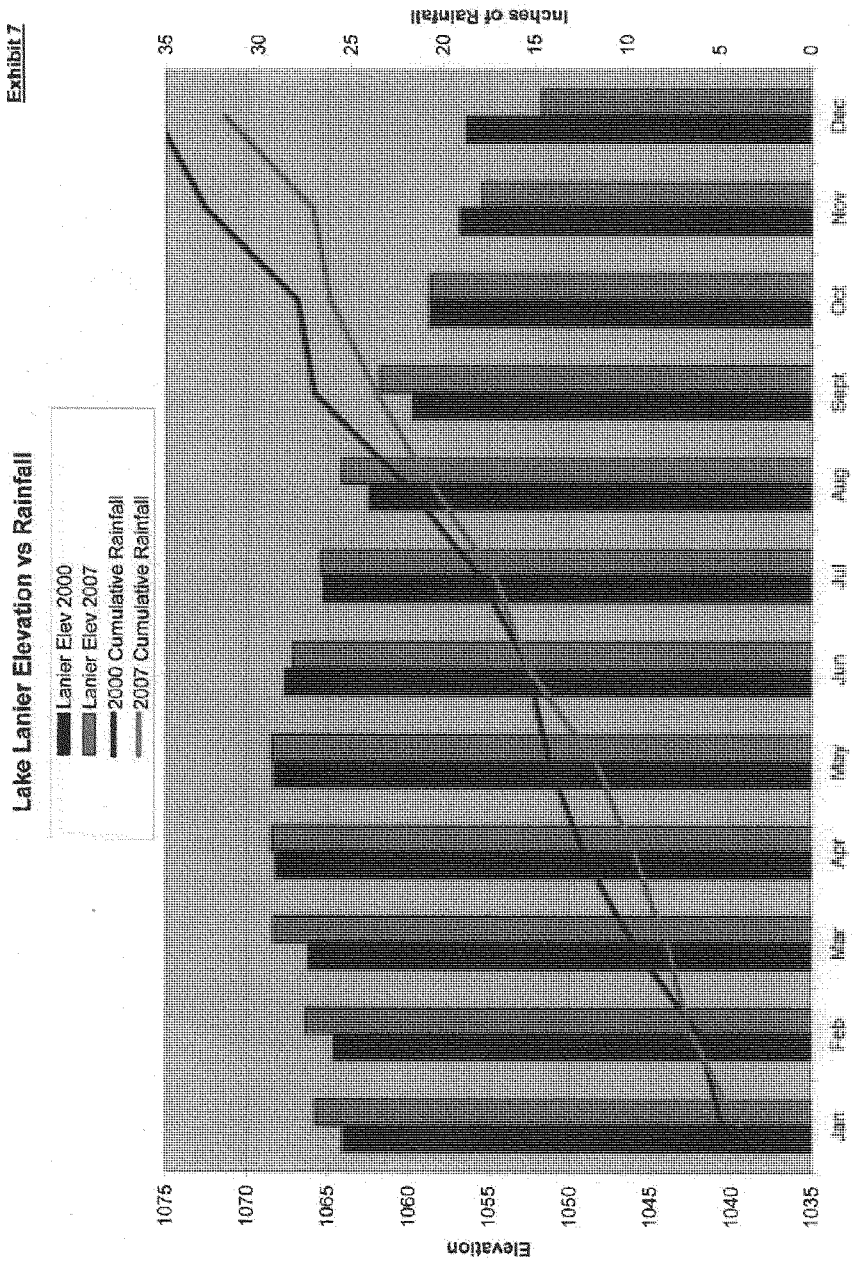

Lake Lanier Elevation vs Rainfall
Lanier Elev 2000
Lanier Elev 2007
2000 Cumulative Rainfall
2007 Cumulative Rainfall
Elevation
Inches of Rainfall
1075
1070
1065
1060
1055
1050
1045
1040
1035
35
30
25
20
15
10
5
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sept
Oct
Nov
Dec

Exhibit 8

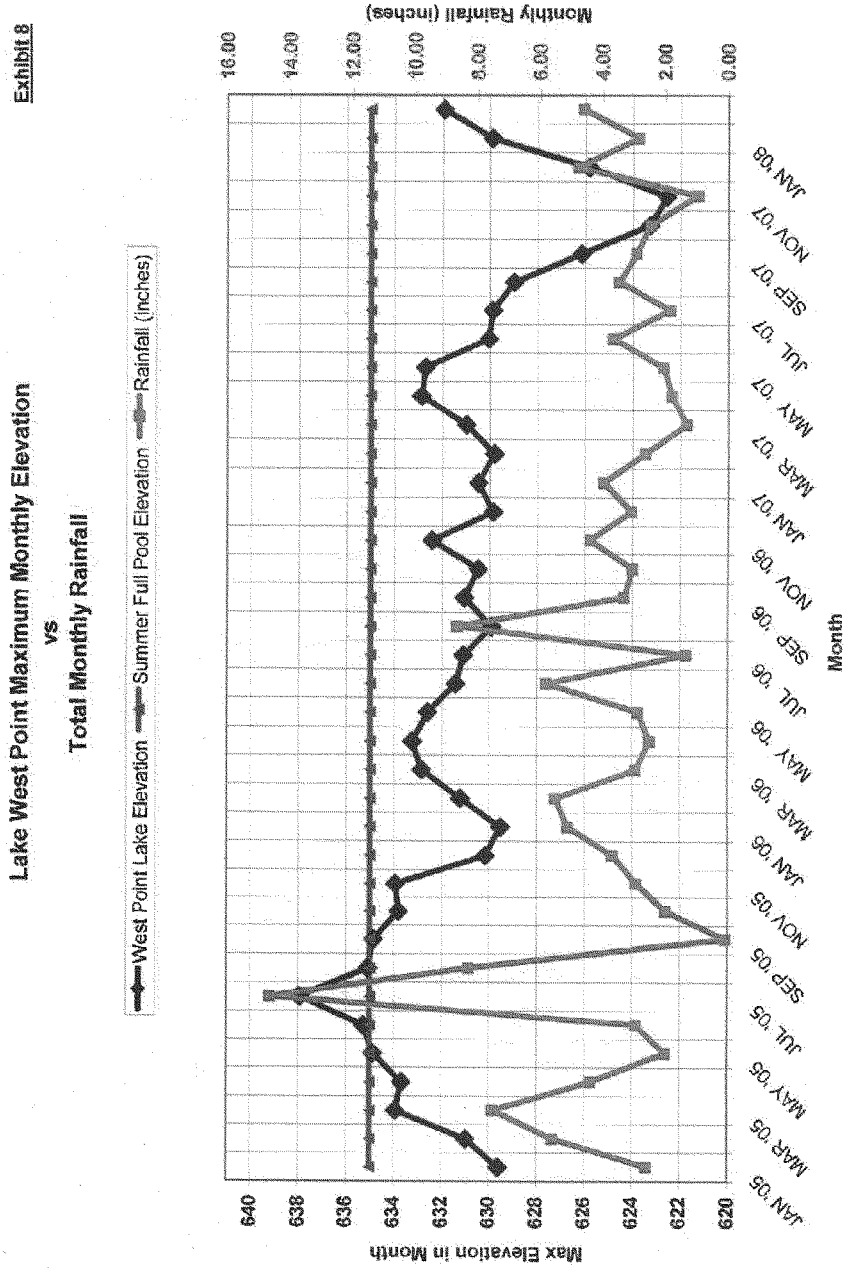

Lake West Point Maximum Monthly Elevation
vs
Total Monthly Rainfall
West Point Lake Elevation
Summer Full Pool Elevation
Rainfall (inches)
Max Elevation in Month
Monthly Rainfall (inches)
Month
640
638
636
634
632
630
628
626
624
622
620
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
JAN '05
MAR '05
MAY '05
JUL '05
SEP '05
NOV '05
JAN '06
MAR '06
MAY '06
JUL '06
SEP '06
NOV '06
JAN '07
MAR '07
MAY '07
JUL '07
SEP '07
NOV '07
JAN '08

Exhibit 9

IOP minimum discharge from Woodruff Dam by month and by basin flow (BI) rates.

		Basin Inflow (cfs)[a]	Releases from Woodruff Dam (cfs)
March - May	High	>= 37,400	not less than 37,400
	Mid	>= 20,400 and < 37,400	>= 70% BI; not less than 20,400
	Low	< 20,400	>= BI; not less than 5,000
June - February	High	>= 23,000	not less than 16,000
	Mid	>= 8,000 and < 23,000	>= 70% BI; not less than 8,000
	Low	< 8,000	>= BI; not less than 5,000

[a] The running 7-day average daily inflow to the Corps' ACF reservoir projects, excluding releases from project storage.

IOP maximum fall rate for discharge from Woodruff Dam by release range.

Release Range (cfs)	Maximum Fall Rate (ft/day)[a]
> 30,000	Fall rate is not limited.
> 20,000 and < 30,000	1.0 to 2.0
> 16,000 and < 20,000	0.5 to 1.0
> 8,000 and < 16,000	0.25 to 0.5
< 8,000	0.25 or less

[a] Consistent with safety requirements, flood control purposes, and equipment capabilities, the IOP indicates that the Corps will attempt to limit fall rates to the lower value specified for each release range.

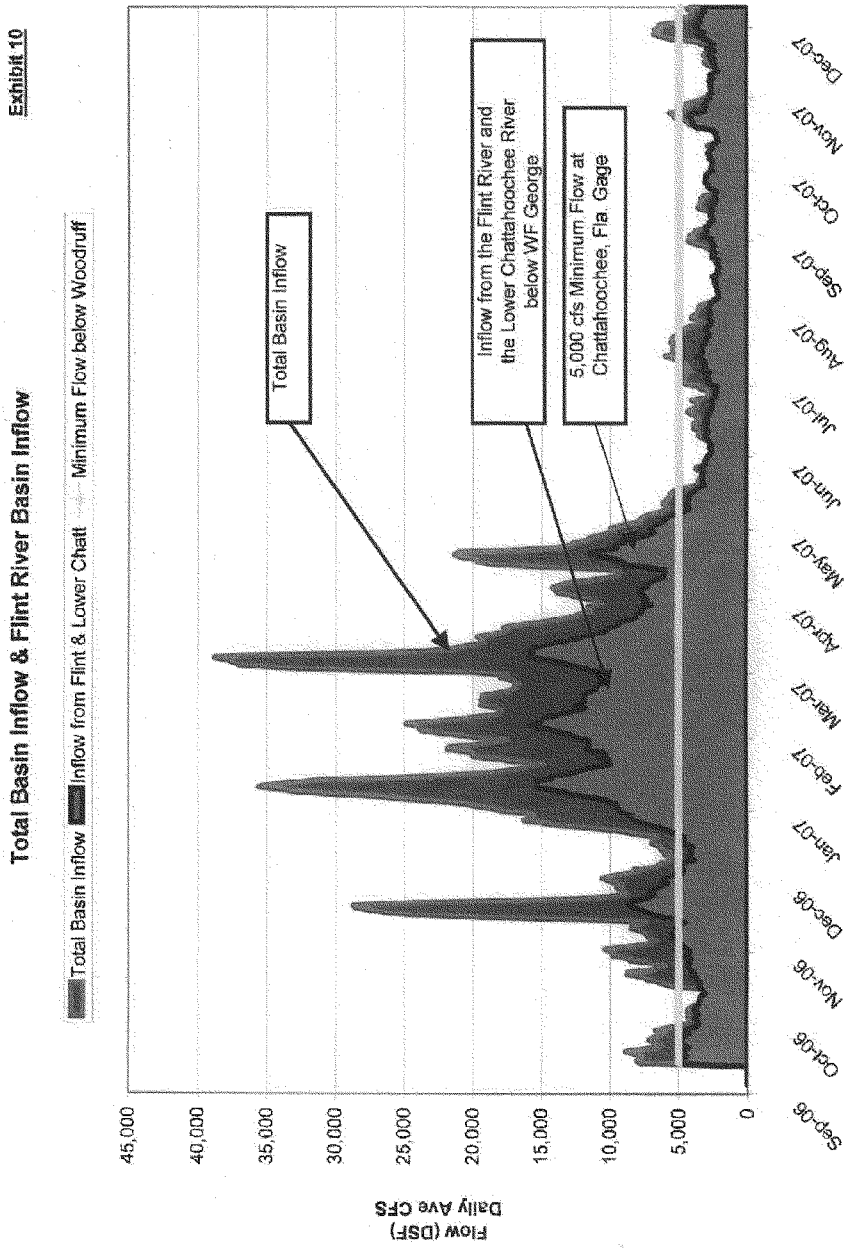


Exhibit 10
Total Basin Inflow & Flint River Basin Inflow
Total Basin Inflow
Inflow from Flint & Lower Chatt
Minimum Flow below Woodruff
Total Basin Inflow
Inflow from the Flint River and the Lower Chattahoochee River below WF George
5,000 cfs Minimum Flow at Chattahoochee, Fla. Gage
Flow (DSF) Daily Ave CFS
45,000
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
0
Sep-06
Oct-06
Nov-06
Dec-06
Jan-07
Feb-07
Mar-07
Apr-07
May-07
Jun-07
Jul-07
Aug-07
Sep-07
Oct-07
Nov-07
Dec-07

COMPLETE STATEMENT OF

BRIGADIER GENERAL JOSEPH SCHROEDEL

COMMANDER, SOUTH ATLANTIC DIVISION
U.S. ARMY CORPS OF ENGINEERS

BEFORE THE
COMMITTEE ON SMALL BUSINESS
UNITED STATES HOUSE OF REPRESENTATIVES

ON

THE IMPACT OF THE 2006-2007 DROUGHT ON GEORGIA'S ECONOMY

MARCH 25, 2008

U.S. Army Corps of Engineers
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INTRODUCTION

Madam Chair and members of the Committee, I am Brigadier General Joseph Schroedel, Division Commander, South Atlantic Division, U.S. Army Corps of Engineers (Corps). Thank you for this opportunity to provide testimony regarding the Corps management strategies for federal reservoirs during these times of extreme drought. We take this issue very seriously and I commend you for holding this hearing.

I will start my testimony with an overview of the current drought situation, followed by basic information about Corps roles and responsibilities and a description of how the South Atlantic Division has been operating the federal reservoirs in the Apalachicola-Chattahoochee-Flint (ACF) and Alabama-Coosa-Tallapoosa (ACT) Rivers basin systems and how we have intensified our communication and coordination during these difficult times. I will conclude with my views on future programs and actions that could increase communication and coordination among all affected parties.

STATUS OF THE SOUTHEASTERN UNITED STATES DROUGHT

Drought conditions in the southeastern United States began in 2006 and continued to worsen over most of the southeast during 2007. The latest U.S. Drought Monitor (http://drought.unl.edu.dm) indicates over 70% of the southeast is classified as being in a drought. The condition in almost 20% of that area is classified as "exceptional," which is the worst drought category. Record rainfall deficits reached 20-25 inches (about 50% of normal) for much of the southeast during 2007. Many streams also reached record low flows during the fall of 2007. Record low lake levels were observed at Lanier and Carters lakes. Municipal and industrial water supply, agriculture, navigation, recreation, hydropower, and the environment all have been severely affected by the drought.

The multi-year 2006-2008 drought persists across north Alabama and northwest Georgia, though seasonal winter rainfall has ameliorated conditions somewhat. The primary concern now centers on the headwaters of the ACF Rivers basin system, which is located north of Atlanta. Lake Lanier is presently at 1054.8 feet (March 14, 2008 reading). This is the lowest elevation ever recorded in mid March, and it is some 13 feet below the level it was at this time last year. Below normal rainfall is forecasted by the National Oceanic and Atmospheric Administration (NOAA) for the remainder of the spring of 2008, therefore it is unlikely that Lake Lanier will be refilled by spring rains. If drier than normal conditions persist, the situation could become more problematic by this summer. On the ACT Basin, Allatoona and Carters lakes are beginning to show signs of recovery. However, it is still unknown if the lakes will be refilled by summer. Drought conditions in southern Alabama, southern Georgia and the panhandle of Florida appear to have ended, as indicated in the latest NOAA Drought Monitor (March 13, 2008.)

U.S. ARMY CORPS OF ENGINEERS ROLES AND RESPONSIBILITIES

The Corps generally constructs and operates multi-purpose water resource projects. Purposes can include flood damage reduction, production of hydropower, recreation, navigation, water supply, water quality, irrigation, and fish and wildlife conservation. Day-to-day operation of our multi-purpose projects seeks to balance these competing and often conflicting purposes. During drought, these conflicts are magnified due to the limited water resources and higher demands.

Under the authority of the 1958 Water Supply Act, the Corps may make water supply storage available for municipal and industrial (M&I) uses. By making storage available, it conveys the right to store a resource in a Corps reservoir project, but this does not include a guarantee that the water will be available. The federal government makes no representation with respect to either the quantity or quality of water and assumes no responsibility for the treatment or availability of the water. It is critically important for all engaged in water resource issues to recognize that water supply withdrawals are regulated by individual states.

Under normal circumstances, the Corps operates and manages federal reservoirs to meet all authorized project purposes in accordance with water control plans. These plans establish modes of operations under different conditions. It is when drought occurs that complicated issues begin to develop within these basins. Balancing the various reservoirs with available water to maintain project purposes becomes more difficult as available water continues to dwindle. If drought conditions worsen, some project purposes may be temporarily adversely affected. We are often able to concurrently meet several of these needs with one action. For example, although there may not be sufficient water to make special releases for hydropower, water released for water quality or other downstream purposes can also be run through a generator to produce some hydropower benefits.

CORPS ENGAGEMENT IN THE ACF AND ACT RIVERS BASIN SYSTEMS

The South Atlantic Division's area of responsibility includes all or significant portions of the states of Georgia, Florida, South Carolina, Alabama, Mississippi, and North Carolina. There are four districts within the South Atlantic Division that have water management responsibilities – Jacksonville, Mobile, Savannah, and Wilmington. The ACF and ACT Rivers basin systems fall under the jurisdiction of the Mobile District.

The Apalachicola-Chattahoochee-Flint Rivers Basin System

ACF Rivers Basin Description. The ACF Rivers system is a multipurpose system authorized for flood control, hydropower, navigation, water supply, water quality, recreation, and fish and wildlife conservation. The system covers 19,600 square miles. Seventy-four percent of the basin lies in the state of Georgia, 15% in Alabama, and 11% in Florida. The ACF system includes five federal and 11 non-federal reservoirs. The

federal projects on the basin system begin with Lake Sidney Lanier at the headwaters, West Point Lake, Lake Walter F. George, George W. Andrews and Lake Seminole at the lower end of the basin. There are also run-of-the-river hydropower facilities operated by private and public utilities along the system.

ACF Rivers Basin Operations. The ACF Rivers Basin system operation is guided by a draft water control plan developed in 1989 that defines action zones for each of the major storage projects on the ACF, i.e., the Lanier, West Point and Walter F. George reservoirs (finalization of the draft 1989 plan was halted by litigation). The zones are used to manage the lakes for flood control, hydropower generation, navigation, recreation, and other authorized purposes. These zones were derived based on the past operation of the projects which considered the time of year, historical pool level/release relationships, and operational limits for conservation and recreational resource impact levels.

The three lakes that represent the major storage facilities in the ACF system are operated so as to maintain water levels in the same zones concurrently. However, due to the hydrologic and physical characteristics of the river system and other factors such as time of year, there may be brief periods when one lake is in a lower zone than the other. If this occurs, efforts are made to bring the lakes back in balance with each other as soon as conditions allow. By doing this, impacts to the river basin are shared equitably among the projects.

Under drought conditions, meeting all authorized purposes becomes challenging. Meeting certain authorized purposes may temporarily take precedence over some other purposes. Federal actions that could affect endangered species are governed by the Endangered Species Act and consultation with the U.S. Fish and Wildlife Service (USFWS) may be required depending on the actions being contemplated.

Management of the ACF in Drought Conditions. On the ACF, an Interim Operating Plan (IOP) which provided for target flows to support endangered species under differing hydrologic conditions was implemented in September 2006. The summer of 2007 brought extreme heat and drought conditions in Georgia which, coupled with flow requirements in the ACF system, caused system storage to be depleted at a rapid rate. In particular, flow requirements at the Jim Woodruff Dam at Lake Seminole to support industry and endangered species were driving water management decisions. Therefore, in September 2007, the Corps and USFWS initiated discussions to temporarily modify the IOP in response to the exceptional drought conditions and rapidly declining conservation storage in the system.

The resulting Exceptional Drought Operations plan (EDO) is a temporary modification of the existing IOP. The intent of the EDO is to minimize adverse impacts to listed species in the Apalachicola River while making allowances for increased storage opportunities and/or reductions in the demand of storage in order to provide continued support to project purposes and minimize impacts to other water users during a severe multi-year drought.

Formal consultation on the proposed EDO was completed with issuance of a Biological Opinion by the USFWS on November 15, 2007, and the Mobile District was able to immediately lower the flow requirements and increase the storage provisions of the Corps IOP to conserve water in the system. The EDO allowed for reduction of the 5,000 cubic feet per second (cfs) minimum flow requirement in the Apalachicola River, as measured at the Chattahoochee gage, to a 4,750 cfs minimum flow requirement (the reduction in flows follows the IOP maximum fall rate schedule) when Composite Storage falls below the bottom of Zone 3 into Zone 4.

The Biological Opinion for the EDO will expire on June 1, 2008. In the near term, the Corps is working with USFWS to extend short-term drought operations beyond that expiration date. We are in consultation with the USFWS to determine what, if any, modifications need to be made to the EDO or the IOP given current and projected conditions in the basin. As the situation stands, it appears we could be entering the spring and summer season with the lowest amount of storage ever in the ACF basin. Our goal, given this situation will be to meet as many basin needs as possible with the basin resources available.

Alabama-Coosa-Tallapoosa Rivers Basin System

ACT Rivers Basin Description. The ACT Rivers system is a multipurpose system authorized for flood control, hydropower, navigation, water supply, water quality, recreation, and fish and wildlife conservation. The basin covers 22,800 square miles. Seventy-seven percent of that area is in Alabama, the remainder is in Georgia. The system has five Corps projects and ten Alabama Power Company (APC) dams. The Corps projects consist of two major storage projects, Allatoona and Carters in Georgia at the upper end of the basin and three run-of-the-river lock and dam projects at the lower end of the basin in Alabama – Robert F. Henry, Millers Ferry and Claiborne. The Corps projects constitute 22% of the available storage in the system. APC projects are located on the Coosa and Tallapoosa Rivers and are operated in conjunction with the Corps. The APC projects constitute 78% of the available storage in the ACT system. The Corps oversees the APC projects only for purposes of flood control operations.

ACT Rivers Basin Operations. The ACT Basin is also operated as a system. The majority of the drainage area and storage capacity, however, belongs to Alabama Power Company. Emphasis is placed on maintaining storage in headwater projects (i.e., Allatoona, Carters) during periods of reduced flow. Carters Lake is a pumped storage project that provides a significant portion of generation within the Southeastern Power Administration's AL/GA/SC system and is operated to maximize hydropower production during periods of reduced flow. Water is released from Carters Lake only to achieve minimum flows necessary to support instream water quality requirements.

On the ACT, there is a 4,640 cfs minimum flow requirement from the Coosa and Tallapoosa Rivers. This flow requirement, contained in an agreement between the Corps and the Alabama Power Company, is determined by a minimum seven day

average flow, rather than a single day measure. The flow is made up of flows from the APC projects (Jordan, Bouldin, and Thurlow) which augment flows to meet either the flow requirement below Claiborne Dam to make navigation on the Alabama River possible or a 6,600 cfs flow requirement (the 6,600 cfs standard is the lowest stream flow that is likely to occur for seven consecutive days within a ten year time period). When drought conditions indicate that a drought is imminent, the Corps evaluates the impact to the Alabama Power projects, Corps projects, and navigational interests, of operating under the low flow agreement. The Corps coordinates with APC to determine if a change in flow agreement is warranted.

Management of the ACT Rivers Basin System During Drought. As conditions deteriorated in the spring of 2007, the South Atlantic Division and Mobile District held a Drought Summit for the ACT Basin in Columbus, Georgia on June 25, 2007. Affected stakeholders in Georgia and Alabama, as well as state and federal agencies that deal with the system attended the summit. The summit allowed the Corps to gain a better understanding of their views and concerns, and allowed them to share technical information with the Corps. During this meeting, the Corps briefed summit participants on the current and future operations in the system.

As the drought worsened through the late summer of 2007, the Mobile District and division staffs have worked closely with state agencies in Georgia, Alabama and the APC to coordinate and develop drought management policies. On November 14, 2007, the Corps began coordination with the state of Alabama and the APC and jointly developed ten proposals for drought management within Alabama. The actions included short and long-term items. To date, seven of the ten proposals have been implemented, and work continues on the three long-term proposals.

Coordination with the public and other agencies intensifies during drought conditions

Open and continual communication has figured prominently in our approach to managing the ACF and ACT Rivers basin systems during this historic drought. On July 11, 2007, the Mobile District began to conduct weekly teleconferences for ACT stakeholders and on September 20, 2007, the district began holding biweekly teleconferences for ACF stakeholders. These teleconferences allow all to hear the latest information on system conditions, to be informed of future operational changes, and to adjust their actions and/or expectations based on the information provided. The calls also provide a venue through which participants transmit information to the Corps.

Division and district community outreach has been robust. Corps staff has engaged in hundreds of community forums including meetings, local news programs, and radio and newspaper interviews, all in an effort to inform the public about the roles and responsibilities of the Corps and the challenges it faces. We have gained an in-depth understanding of the concerns of the industry, user and supply groups, and the public.

Coordination with other federal agencies such as the Department of Interior, USFWS, the U.S. Environmental Protection Agency, NOAA, and the Federal Energy Regulatory Commission (FERC) is extremely important. We believe it is vitally important that we act as an integrated federal team given the complexity of the issues that span multiple state and local governments, and affect numerous user groups and private industries such as those which provide hydropower.

Our work with NOAA is an excellent example of federal cooperation as we look to their expertise in drought monitoring and prediction to assist our programs and actions. They have briefed us extensively during this drought and we value their continued support.

Our coordination with the USFWS has been extremely successful. Under drought conditions, the impacts of our actions on endangered species, such as three species of mussels and the Gulf sturgeon on the Apalachicola River, require consultation under Section 7 of the Endangered Species Act (ESA). During informal consultation and as new scientific information became available, the Corps adjusted its operations at the Jim Woodruff Dam as needed to provide adequate flow conditions to afford protection for the Gulf sturgeon and protected mussel species in the Apalachicola River. Our team approach to ESA coordination has allowed both agencies to cut review times to lengths never imagined possible.

Consideration of the potential impacts on drinking water supplies and energy production has prompted us to coordinate with the Department of Homeland Security (DHS). After initial briefings for DHS staff we provide weekly data to DHS on the status of the projects where water shortages are most acute.

Near Term Drought Mitigation Strategy: Updates of Water Control Plans

Project operations at each reservoir are described in water control plans and/or manuals. These manuals typically outline the regulation schedules for each project, including operating criteria, guidelines, rule curves, and specifications for storage and releases from the reservoirs. The water control manuals also outline the coordination protocol and data collection, management, and dissemination associated with routine and specific water management activities (such as flood control operations or drought contingency operations). Updates or revisions to the water control plans are typically integrated with the National Environmental Policy Act (NEPA) public involvement and documentation process.

The district water managers in the southeast have been diligent in adjusting operating and drought plans to manage the limited water resources during this drought. When the conditions became so severe that our approved plans could no longer support the systems, in accordance with our regulations, the district water managers requested approval for temporary deviations from the division.

Current and up-to-date water control plans are the most important management tool water managers have. Without updated water control plans, the Corps runs the risk of

any or all of the following: adversely affecting water quality downstream; failing to provide sufficient water where and when needed to meet the authorized purposes of our projects and the needs of stakeholders, whether domestic or municipal and industrial; adversely affecting endangered species; expending water resources too early, thereby reducing our ability to maintain the system to meet project purposes and the needs of the stakeholders; and flooding people and facilities that are now within flood plains.

Updates of water control plans are done in accordance with statutory (Flood Control Act of 1944) and regulatory requirements (Engineer Regulation (ER) 1110-2-240 and ER 1110-2-8156), that comply with NEPA and account for demographic, hydrologic, environmental, and technological changes that have occurred within the basins. The Water Resources Development Acts (WRDA) of 1988 and 1990 also provide for public involvement of all interested stakeholders during the development of new or revised water control plans, which ensures consideration of the current public interests within the basin.

The South Atlantic Division is now in the process of updating several water control plans in accordance with Corps regulations. The Mobile District has recently been directed by the Secretary of the Army to update the water control plans for the ACF and the ACT Rivers basins. These water control plans were being updated in the late 1980s and early 1990s when work was stopped due to litigation.

Future: Southeast Regional Water Resource Council Concept

If any of the agencies - whether federal or state, industry or the public - are to successfully manage water, we must find a way to work more closely and cooperatively across boundaries, missions, and jurisdictions. Towards this end, almost a year ago I introduced the concept of a state-led forum to develop a regional vision for integrated solutions to water resource challenges in the southeastern region. My intent was to establish a process whereby the Corps and other federal partners could ensure our programs and priorities are in concert with states needs and priorities across the region and to foster a more collaborative and consistent effort for development and use of water resources in the region.

Early informal feedback from our contacts with governors and state government officials was generally favorable, but cautious. Initial feedback from a variety of constituent groups with direct interest in water resources issues was quite favorable. They saw the regional council of states as an opportunity to reduce fragmentation, establish more consistent approaches to water resources issues across the region, set some overarching regional water resource priorities, and build a collaborative working relationship among states and federal partners. We have since assigned a team of division and district staff to refine the concept and to further communicate with the states and stakeholders. We are in the process of that coordination now.

The concept, as it is now defined, is a state-led forum among the southeastern states to address existing and emerging regional water resources challenges in the region. A

regional water resources forum in the Southeast would provide a means to: (1) maintain ongoing multi-state regional dialogue on water resources issues and priorities; (2) develop regional strategies and establish regional priorities for water resources management and investments; and (3) promote creation of innovative interstate partnerships to address critical water resources issues.

I strongly believe establishing a southeastern water resources council could provide enormous benefits to the states, federal partners, and residents of the region.

CONCLUSION

Madam Chair, members of the Committee, thank you for this opportunity to testify before you. This concludes my testimony. I would be happy to answer any questions you might have.

APPENDIX
Provisions of the Exception Drought Operation Plan for the ACF Rivers Basin

Consistent with the existing IOP which uses **Composite Storage** to trigger whether the desired minimum flow (6,500 cfs) or the required minimum flow (5,000 cfs) is maintained, the proposed action also uses Composite Storage to determine when the EDO is required. The Composite Storage is calculated by combining the storage of Lake Sidney Lanier, West Point Lake, and Walter F. George. Each of the individual storage reservoirs consists of four Zones. These Zones are determined by the operational guide curve for each project. The Composite Storage utilizes the four Zone concept as well.

The EDO is "triggered" whenever the Composite Storage falls below the bottom of Zone 3 into Zone 4. At that time the provisions of the IOP are suspended and management decisions are based on the provisions of the EDO. The provisions of the EDO remain in place until conditions improve such that the Composite Storage reaches a level above the top of Zone 3 (i.e., within Zone 2). At that time, the EDO provisions are suspended, and the provisions of the IOP are reinstated.

The EDO includes the following provisions and triggers:

- Immediate suspension of all IOP provisions including seasonal storage limitations, downramping restrictions, and minimum flow thresholds, and volumetric balancing accounting whenever the Composite Storage falls below the bottom of Zone 3 into Zone 4;

- Immediate reduction of the 5,000 cfs minimum flow requirement in the Apalachicola River, as measured at the Chattahoochee gage, to a 4,750 cfs minimum flow requirement (the reduction in flows will follow the IOP maximum fall rate schedule) when Composite Storage falls below the bottom of Zone 3 into Zone 4;

- Reduction of minimum flow requirement in the Apalachicola River, as measured at the Chattahoochee gage, to 4,500 cfs when (1) cumulative annual basin inflow above WF George Dam is less than 5th percentile, (2) monthly basin inflow above the Newton Gage on the Flint River is less than 5th percentile, and (3) West Point and WF George projects are at the bottom of zone 4 (top of inactive storage) and Lake Lanier is in zone 4;

- Additional reduction of minimum flow requirement in the Apalachicola River, as measured at the Chattahoochee gage, to 4,150 cfs is anticipated if severe drought conditions persist and will be based on appropriate triggers or criteria, yet to be developed in consultation with the USFWS;

- Implementation of a monthly monitoring plan that tracks Composite Storage in order to determine the appropriate water management operations (the first day of each month will represent a decision point) and whether EDO triggers are applied;

- Reinstatement of the 5,000 cfs minimum flow requirement, but none of the other IOP provisions, once conditions improve such that the Composite Storage reaches a level above the top of Zone 4 (i.e., within Zone 3);

- Suspension of all EDO provisions and reinstatement of the normal IOP provisions once conditions improve such that the Composite Storage reaches a level above the top of Zone 3 (i.e., within Zone 2).

TESTIMONY OF SAM D. HAMILTON, REGIONAL DIRECTOR, SOUTHEAST REGION, U.S. FISH AND WILDLIFE SERVICE, DEPARTMENT OF THE INTERIOR, BEFORE THE HOUSE COMMITTEE ON SMALL BUSINESS REGARDING DROUGHT ISSUES IN THE SOUTHEAST
March 25, 2008

Madame Chairwoman, and Members of the Committee, thank you for the opportunity to testify on behalf of the Department of the Interior regarding the impacts of the current drought in the Southeast. I am Sam Hamilton, Regional Director for the Southeast Region of the U.S. Fish and Wildlife Service, headquartered in Atlanta, Georgia.

The Service is the principal Federal agency responsible for conserving, protecting, and enhancing fish, wildlife, and plants and their habitats for the continuing benefit of the American people. The Southeast Region of the Service includes the states of Georgia, Florida, Alabama, Mississippi, Arkansas, Louisiana, Kentucky, Tennessee, North Carolina, and South Carolina, as well as Puerto Rico and the U.S. Virgin Islands.

As you are aware, the Southeast is in the midst of an historic drought. Many reservoirs are at their lowest recorded elevations and several cities and towns support significantly higher populations and demand more water than they did during previous droughts. In 2007, parts of Georgia, Alabama, North Carolina, South Carolina and Tennessee had their lowest annual rainfall on record and stream flows in many areas have been at all time lows. While some forecasts for 2008 suggest that conditions may improve later this year, the situation today remains very serious.

Federal Role in the Apalachicola-Chattahoochee-Flint (ACF) River Basin

Water is a public resource governed by state governments, not Federal agencies. However, Federal agencies play an important cooperating role, and the Federal government has made significant investments in the construction and maintenance of reservoirs to meet multiple public use purposes. In the ACF basin there are four large

Federal reservoirs. One of the Department's roles, through the Service, is to advise Federal agencies with regard to their obligations under the Endangered Species Act.

In the ACF River basin, this means working closely with the U.S. Army Corps of Engineers, the states of Alabama, Florida and Georgia, and other partners to ensure the threatened Gulf sturgeon and three species of endangered mussels – the Purple bankclimber, Fat threeridge and Chipola slabshell - are not jeopardized by any agency action. Collectively, we are working towards the recovery of these species, which require flowing water to survive.

Balancing the water needs of millions of people across three States is not easy, particularly during this extreme drought. The river system supplies water for many municipal and industrial purposes, including power generation, flood control, navigation, drinking water, agriculture, pollution dilution, fish and wildlife habitat, and recreation. It is important to understand that the Service is not putting the needs of fish and mussels ahead of the needs of people. Conserving aquatic species is a means to ensure the health of our rivers and streams, and mussels are the canary in the coal mine for our rivers - declines in native mussel populations indicate an emerging problem with the health of the river that could affect people.

The Service has been working with the Corps since the 1980s when drafting of revisions to the ACF Water Control Plan began. Shortly thereafter the "ACF Water Wars" ensued in several Federal courts. Throughout the era of the tri-state water compact in the 1990s, the Service provided assistance as additional data was collected and as the States negotiated water allocations. With the listing of the Gulf sturgeon as threatened in 1991 and the mussels as endangered in 1998 under the Endangered Species Act, the Service consulted with the Corps as it managed flows within the system.

In addition to our participation in these overarching negotiations, the Service is working proactively on the ground in the ACF basin to help communities meet their growing water demands. For example:

- In 2001, we provided $200,000 to agricultural producers in the Flint River basin to retrofit irrigation systems in order to conserve water;
- In 2004, we helped develop guidance for streamlining the review process for water supply reservoirs throughout Georgia;
- In 2005-2006, we helped develop a water supply plan protocol to assist municipalities with securing water supply while minimizing impacts to federally listed species north of Atlanta; and
- In 2006, we provided $130,000 to the State of Georgia to begin the planning process for the development of a habitat conservation plan for the lower Flint River basin which would help engage basin stakeholders, primarily agricultural users, in water conservation and mussel protection.
- For many years, we have been working in high priority areas throughout the basin on mussel surveys and monitoring. By entering into partnerships with communities, landowners, and local, State and Federal agencies, we continue to explore opportunities to restore and protect aquatic habitat.

Regardless of these and other proactive efforts to conserve species, in 2006, the basin experienced diminishing precipitation levels and the situation worsened in 2007. Without rainfall, the Corps had to adjust its operations to meet the multiple purposes of the reservoirs, the needs of fish and wildlife, and the needs of basin stakeholders.

To address potential effects of reservoir operations, the Corps developed the Interim Operating Plan (IOP) in 2006, and the Service formally consulted on this plan. While some mussels could be affected by the IOP, we concluded that the 2006 IOP was not enough to avoid jeopardy to the species' continued existence. Measures to avoid and minimize harm to the species were recommended and accepted by the Corps.

As the drought worsened, the Corps and the Service agreed to several adjustments to the IOP in October 2007, to help maintain water in reservoir storage. The Corps then formally amended the IOP on November 1, 2007, producing the Exceptional Drought Operations (EDO) plan to increase opportunities to store water during rain events.

Knowing that extreme drought was continuing, and given our close working relationship with the Corps, the Service marshaled a large team to collect additional data, complete the needed analyses, and complete formal consultation on the EDO in only 15 days, a process that typically takes up to 135 days.

Today we continue to work closely with the Corps, the States, and other Federal agencies to enhance flexibility in water management on the ACF, while considering the needs of fish and wildlife resources. Most recently, we have been supporting Secretary Kempthorne and his staff as they assist the States in negotiating a water sharing agreement for the ACF.

Drought Throughout the Southeast

Of course, the ACF basin is just one of the stressed river systems throughout the Southeast. In addition to working with Alabama, Florida, and Georgia, we are working with partners in North Carolina, South Carolina, and Tennessee as they wrestle with assessing and understanding the ongoing and future impacts of drought. For example:

- We are actively working with the Corps, the Federal Energy Regulatory Commission, and Alabama Power Company in the Alabama-Coosa-Tallapoosa (ACT) River Basin to address the impact of operational changes on listed species.
- We are working with six States most deeply affected by the current drought (AL, FL, GA, NC, SC and TN) to develop a drought contingency plan for freshwater mussels. The plan will guide decision-making with regard to appropriate actions that should be carried out in the event of extreme drought conditions. Contingency planning will identify a monitoring network of specific actions to be taken, expected consequences of these actions, and triggers for initiating actions and expectations regarding evaluation of any actions that are implemented.
- In Tennessee, we worked with the Tennessee Valley Authority (TVA) when they reduced flows at Normandy Dam on the Duck River in October 2007. The Duck River supports significant populations of three federally listed mussel species. In February 2008, we developed a plan with TVA and the state of Tennessee to

further reduce flows from Normandy Reservoir in order to conserve water for future needs of humans and mussels if the drought continues.

- In South Carolina and North Carolina, we are working with key partners on strategies to save a number of mussel species. We have also initiated emergency rescue operations for one species, the federally endangered Carolina heelsplitter, of which only 10 small populations remain.
- In North Carolina, we are working with the Corps and other partners to manage reservoir levels and river flows in the Raleigh area.
- In Florida's Everglades, we are working with many partners including the South Florida Water Management District, local governments, and the Corps to manage the significant drought challenges currently found throughout the entire ecosystem. Lake Okeechobee, known as the liquid heart of the Everglades, is facing record low water levels that are expected to drop even further as the dry season continues. We are working together to strike a balance that meets south Florida's water needs, protects important habitat such as the Arthur R. Marshall Loxahatchee National Wildlife Refuge, and conserves species including the snail kite, a highly endangered bird.

Information Needs

The Department is seriously committed to working with states affected by drought now and in the future. The drought has highlighted data gaps and information needs that, if filled, would facilitate future decision-making for the Service and our State and Federal partners. For example, for the ACF we have created a list of projects that would increase our understanding of river hydrology and the habitat needs of sturgeon and mussels; implement key habitat restoration efforts; and provide incentives to private landowners to conserve water. We are developing similar lists of information needs for the ACT and other basins.

The drought has also highlighted existing areas of work that are crucial for understanding water shortages. For example, USGS stream gauges throughout these river systems have been important monitoring tools over the course of the drought. Data resulting from this

program is basic to our ability to understand changing hydrology and manage these river systems.

While we need information to make decisions, partnerships with key water users and education efforts that encourage the public to conserve water are also needed. Water may soon become a limiting factor for growth and development in many areas of the southeast. While we cannot produce more rain, we can all do more to maximize the use of the precipitation that the Southeast receives to best meet the needs of all water users.

Conclusion

The Department and its State and Federal partners have been working proactively for many years to implement solutions that balance the many uses of these systems, including meeting the water needs of people, while at the same time conserving species. Maintaining healthy river systems is critically important to the economy and natural environment of the Southeastern United States. The drought has taught us that more needs to be done to keep these systems healthy for generations to come. These lessons are particularly important in light of climate change predictions, which suggest more intense droughts, sea level rise and increased temperatures in the Southeast. The Department is committed to help states find practicable and balanced solutions, based on the realities of Mother Nature, to manage their water supplies.

Madame Chairwoman, thank you for the opportunity to testify today. This concludes my prepared remarks, and I would be happy to respond to any questions that Members may have.

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